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THE TWO WIVES.

BY MRS. ELIZABETH OAKES SMITH.

CHAPTER I.

THE PROFESSOR was a man such as women, weak in the moral sense, despise and impose upon. Sensitive, gentle, and unworldly, a superior woman would feel a maternal tenderness for him, a desire to shelter and protect, coupled with a religious reverence. Cora, his young wife, was not superior in the accepted sense, but she fascinated and enthralled by a thousand subtile charms, not the least of which were her petulance, willfulness, and limitation. Had she been false, she had been deadly; but, transparent as the light, she evoked tenderness, and enchanted, as a bright child enchants.

The Professor thus writes at the opening of our story.

It is Cora who first speaks:

"The class bell is done ringing, Mr. Lyford."

I could not immediately collect my thoughts, but there was a look upon the face of Cora that troubled me.

"Mr. Lyford, darling. Why not, George?"

"Married people are too free and easy together; but the class is waiting and you ought to go, Mr. Lyford."

"How long did I sleep, dear?"

"Did you sleep?"

"Most certainly. I can not recall the particulars of my dream, but I think it was a strange one."

Cora's lip trembled; she turned her pretty face aside, and then suddenly laid a cold hand in mine, looked eagerly into my face and burst into tears. At this moment a messenger from the college hastened my departure. I kissed her forehead, and went out.

As I threaded my way along the well-worn path, the cool aromas of the fragrant pines and the soothing melody of their whispering branches restored me to myself, and I looked at my watch, which I had all the time held in my hand.

Could it be possible! I had slept less than *one minute!* I recalled to mind, now that the class bell was ringing, when that strange heaviness overcame me, and I had taken out my watch from my vest pocket to ascertain the ex act time. All at once the minutest particulars

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of my vision returned to me—the fine old hunter, Rodman, who so manfully rebuked my imbecilities and vanities; the vast Teocalla; the dirge; all—all came vividly back to my mind, and I felt a thrill of guilty delight as I recalled the passionate beauty of Zalinka. My cheek tingled, my foot moved with unwonted elasticity, and I was like one into whose veins a revivifying flame had been poured, renewing the dews of youth with the vigor of manhood. I felt the rosy flush upon my cheek, and the very air I breathed come laden with goblets upon goblets of ambrosia, mingled with nectar, which I imbibed as if I sat in the midst of the gods.

Entering the long, dusky vestibule, and emerging into the hushed lecture-room, I grew more sobered, and better cognizant of the real, every-day world. I dropped the sun-bright coronal of Apollo, and was once more the grave, pale Professor, with a circle of baldness upon the crown of the head, and a voice not "musical as is Apollo's lute," but a little husky, and needful to be cleared now and then with an emphatic hem! I think my class must have caught sight of a stray beam from my evanishing glory, for more than one student exchanged glances with another, and gazed intently upon my face.

My subject lay upon the metaphysical side of our religious ideas, and in drawing the line of demarkation between those faculties essential to this world and those which are prophetic of another—those which are of the earth earthy, and those which symbolize the heavenly. I plunged with a force and certainty wonderful to myself into the region of dreams and visions, showing that here were phenomena pointing unmistakably to a state of existence beyond this world, and giving intimations of powers as yet only in their rudimentary state. I showed that the phenomena of dreams were of themselves distinct and apparently unessential to man as we now find him, and therefore they must have a significancy beyond his present stage of existence.

I showed, and my enthusiasm kindled as I went on, for I am by no means an eloquent man, but a somewhat prosaic Professor, considered, withal, sound, and of a reliable quality of mind; but now I was quite beyond myself in showing that in dreams only do we realize omniscience and ubiquity, that something for which we have no adequate word, by which all things past, present, and to come are cotemporary to the mind; in dreams we are irrespective of time, and the soul steps into its eternal inheritance and super-mundane experience. In dreams we behold the worship of the Brahman, the Egyptian, and the Aztec as one and the same, existing as a part of human science as palpably now as thousands of years ago; and we move in the midst of this vast, stupendous worship, great, beautiful, and prophetic; proof of the hope of the growing man; proof of the eternal significancy of the growing mind, with a reverence and awe such as these ancient worshipers felt as they swelled the processions, threading the vistas of the Sphynx, or the dim caverns of the Pyramid and the truncated Teocalla.

Every thought was a palpable existence in my own mind, every word symbolized a hidden meaning so profound and so vivid that the atmosphere around me became tinged with auroral tints, prefiguring unseen, eternal, and beautiful realities. I went on:

"We wake from a dream in which we have experienced the hopes, the fears, the passions, the anguish of a life; we move amid scenes and are surrounded by persons with neither of which have we had any prior acquaintance; the smile of beauty thrills the chambers of the soul; the ear vibrates with tenderness at words new to the sense; the eye reads an unknown tongue with the freedom of its vernacular; and here are persons and events stirring the living, breathing man to the center of his being, and covering a vast area in time and space, and yet the finger upon the dial has advanced but a second of time, and the heart has hardly repeated its round of pulsations. Fearfully, wonderfully are we made; we carry within us the omniscience of a God, and we know it not; we thrill to the facts which exist only because we are immortal, and yet we grope about for the proofs; we are responding to realities that are a part of the eternal hereafter, and yet, like reptiles that crawl, we refuse to read the heavens; like beasts that perish, we ignore the internal consciousness that we are immortal and eternal."

As I ceased, for I stopped, I never knew how or why, my class responded with a deep-drawn sigh, and arose, silent and reverently, with a sweet, solemn thoughtfulness, and went out.

Never had I so exulted in the consciousness of existence; never had I so felt the affluence, the effulgence of our humanity. I could have sung aloud with delight, and embraced even my enemy with tenderness and love. I beheld a blossom by the way-side, and I stopped and gazed upon it with an admiration so new and unwonted that it thrilled me to the soul. All that I beheld responded to some great or lovely archetype.

As I entered my own door, I felt such a renewal of my first passionate love for Cora that

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I hastened in to clasp her in my arms, and call her by every endearing epithet. I opened the library door—no Cora there! I hastened to our chamber; it had a cold, sepulchral look that chilled me to the heart.

"Cora, dear Cora," I cried.

There was no response. At length the door from the hall opened, and Hannah, the small servant, stood before me.

"Where is Mrs. Lyford?" I asked, for no American would say "your Mistress" to a servant.

"She told me to tell you she had gone home," was the reply, and she opened her round, bright eyes, and twirled the corner of her apron, as if some doubt rested upon her mind.

I bade her shut the doors, and take good care of the house till *our* return.

Oh, how the face of things had become changed! I could not understand what the absence of Cora meant, but I felt it had an ill portent. I felt as if the gorgeous world which had been opened before me were all an unreal phantasy, fading into night and darkness. The strange inner light which had so illumined my being was suddenly quenched. Doubt, distress, —limitation usurped the springs of being, and I no more drank the nectar of the gods, but fell back to my old self, the honest, prosaic Professor. I felt my head decline, and thought of my little spot of baldness!

"All this," I said mentally, "because a woman frowns. Cora is very pretty, but her caprices are troublesome."

By this time I had reached Mrs. Pyncham's door, and raised the little iron knocker, which I let fall with a slam. The house was small but neat, and the low rooms contrasted with the many elegancies and comforts with which I had surrounded Cora. I thought of this with a grim, bitter, mean spirit, unlike my real self.

The Widow Pyncham soon made her appearance, sniffling and holding up her two hands, cased in a pair of black gloves, the fingers of which had been cut off.

"Did I ever think things would come to this pass?" she exclaimed.

"Where is Cora?"

"You've broke her heart, you have. Oh! you false, double-faced hypocrite!"

Without heeding her by no means flattering estimate of me, I opened the door of an inner room, and there was poor little Cora, curled up in a big armed chair, and crying as if her heart would break. I was angry and distressed, but the sight of her tears quite subdued me. I lifted her slight form in my arms, and sat down with her upon my knee.

"What is the matter, my dear child; tell me what has happened."

"Now is your time, Cora, to show that you will not be put upon; nor put up with his fine notions."

"Shut up, Mother, will you?" cried Cora. But she relapsed into such a fit of crying and sobbing that I grew alarmed.

"Let me take you home, darling, and talk it all over there. Come, do not cry any more, my precious child."

At this she cried a great deal more, and pushed me away with such violence that one of the rings upon her fingers snapped asunder.

"A bad sign, Cora. The very worst sign in the world! The wedding ring, too!" And Mrs. Pyncham held up a piece in each hand, between her thumb and fingers, the points of all the rest stretched out in a sort of horror—mere brown tips from the black gloves.

"Oh dear, dear! it is all so dreadful! Somebody will write a story about me—'The Forsaken Wife,' or 'The False Husband,' or 'The Broken Ring,' or something just as dreadful; and people will come to look at me as the original, just as if I were a two-headed calf, or some monster! Oh dear, dear!" ejaculated Cora.

I laughed in spite of myself at this ridiculous speech. I kissed her, despite of her struggles to prevent me, and burst again into uncontrollable laughter; for a man is always amused more than made angry at an absurd speech from a pretty woman.

"Oh, you monster of monsters!" ejaculated the widow, lifting up both hands, with every finger distended to the utmost. "You monster, to laugh when your wife is dying broken-hearted!"

Cora lifted herself up; first shaking out her dress, and pushing back her curls; then she put a hand upon each side of my face and held me fast, and bringing her eyes quite close to mine, she flung out three words with a force and emphasis that quite confounded me.

"'Zalinka, beautiful Zalinka!' there, now!"

"It was a dream, Cora; a strange dream!"

"People dream of what is running in their heads."

"You foolish child! can we help our dreams?"

"How would you like me to wake out of a sound sleep and cry 'Frederick! adorable Frederick!'"

Cora said this with an air that was quite enchanting; clasping her two hands and rolling up her eyes much in the tragedy style.

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"Dream as much as you like, darling, but have no waking dreams."

"Who is to know that a man has only sleeping dreams, when you were all so sly?' interposed Mrs. Pyncham.

"Oh! do shut up, Mother; I can fight my own battles; where is my hat? George, now tell me true, honest, honor bright, who is Zalinka?"

"A creature of my dream, Cora, nothing more."

"Nothing more! What more do you want? I say, George, I will not go home," and she tossed the hat into the chair and burst into tears again.

"Don't be a little footy, Cora, or I shall want to go to sleep and dream again."

"No you won't; I'll keep an eye upon you! Yes, indeed, I'll go home, and know when next you dream."

Cora said this a little sharply, and yet she yielded to her natural sweetness so far as to smile somewhat, as she put on her hat, and picked out the bows with much care and gave the whole affair a pull and a toss, shook out her dress and pulled on her gloves, and then glanced at the looking-glass, to see if all was right.

"Upon my word! my poor bit of a nose is quite red from crying; what shall I do, George?"

"Drop your vail, child, and avoid tantrums in all time to come."

"Oh, you old-fashioned, tiresome old fellow! By-by, Mother; come round and get the rose-bush I promised you, and bring round that recipe to make jelly; it's perfectly delicious, George, and I'll make some for you," and Cora kissed her mother's dry cheek, put her arm within mine, and we went home together.

CHAPTER II.

In which the Professor relates his Dream —Good Reasons for Moral Perplexity.

I SHALL record my singular experience in dream-land, not knowing what may come of it, for truly my daily life is modified thereby; I being conscious of an unwonted fullness of being, and an occasion of joyfulness that I had supposed lost to me, with the loss of the early flush of youth. Indeed, I am not sure it was a dream, but rather an awakening of memory; a consciousness of a forgotten life! As this record is revived in my mind so clearly, so vividly, I find my educated and traditional conscientiousness is pricked through and through by feelings akin to remorse, when I look on the sweet face of Cora.

But here is my dream, and the question asked by me of my friend and *compagnon de voyage*, Rodman:

"Do you believe in snakes? I mean, do you believe that they have a power so to transform themselves to the eye and mind of the observer that, from being revolting reptiles, they seem 'Angels of Light,' resplendently beautiful, and creatures to be caressed, admired—even worshiped?"

"In course, I believe the varmints can bamboozle a man into liking them, but I don't know as I comprehend all them gay and festive words of yourn."

"I was thinking, Rodman, of what happened to me not far from where we now are, something like forty years ago. I was a younger man then," and I knocked the ashes from my pipe with a sigh.

"Never make a period with a sigh, man. You are young enough now, and handsome enough, as to that."

"Well, well; I never thought to come back here again. Strange things happen in the world. Least of all, Rodman, did I ever expect to see you again, old boy."

"Worse things might come to you than that; we've had many a pooty hunt together, and I shouldn't mind, George, having you roll me in my last blanket. But you had a story to tell; out with it, for when a man's seen two generations 't is n't cheery to look behind him. The old trail is always a melancholy one."

Rodman replenished the camp fire, and I my pipe, and seeing the stars clear and the woods silent, for there was no wind, nothing but the sound of the distant falls, I threw myself upon the ground, fragrant with pine boughs, and we talked till the stars began to pale in the east.

THE STORY.

"We were encamped, as now, upon the Gila, a party of young men, all from good families, gay, careless boys, who were wild for adventure, fresh from our studies, and heartily sick of the dull routine of civilized life.

"You must know I have a peculiar mark upon the breast; you shall see it—it is not always red as now, but generally a pale shade of pink."

"Were you born with that mark, George?" asked Rodman, gravely.

"Certainly; why do you ask?"

"Because, man, you are not, to my mind, what you ought to be, with a mark like that upon your flesh. It seems like God's sign for you to work for him."

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"That is true, Rodman; I am not what I ought to be, nor what my mother used to hope I might be. I remember how tenderly she used to kiss my 'little cross.'"

"Mothers enymost pitch their children into heaven by praying for them. But go on."

"Well, this little mark is red, as you now see it, always before some event of importance transpires; its redness betokens danger, distress, or joy—triumph. I anticipate something decisive and noteworthy impending over me, whenever my little cross is suffused with color.

"I had left my companions higher up the stream, for I grew tired of their noisy mirth, and, with my gun over my arm, leaped a hideous earthquake *crevasse*, and descended the stream to the foot of the falls. I leaned my back against that huge sycamore yonder, and fell into a reverie engendered by the softness of the atmosphere and the loneliness of the spot. I must have slept, and it was a long time before I became assured, in my own mind, whether what transpired was not all of it a dream. I heard the most delicious music that ever ravished human ear—silvery bells chiming; cool, delicious waterdrops falling in musical cadence; soft and dreamy, stealing the breath, came the sounds over the senses.

"I beheld a young girl, half Aztec, it seemed, and half Spanish; one of those phantoms of beauty to be found only in this delightful region, dancing one of those peculiar dances which have that grace and swimmingness of movement akin to the undulations of the sea. With rounded arms gently raised, now above her head, and now curved nearly to her feet, bending, waving her pretty head and lovely shoulders, she seemed in an ecstacy of enjoyment. I rubbed my eyes; I gazed in wonder not unmingled with fear as the dance went on, for, strange to say, her companion in the dance was a huge, hideous rattlesnake. I dared not move or speak. I doubted if both were not snakes, and again I doubted if either were a snake—if both were not girls of the sunny South, stealing away the soul by their grace and beauty.

"I had thrown my sombrero upon the turf, and my breast was bare to the slight wind that stole down the ravine. I must have moved, for all of a sudden the serpent darted forward and buried his fangs here, just above the pap and below the cross. I saw the girl strike the monster down with her small hand, and I felt a pair of cool lips encircling the wound. I knew no more. I was gone to that oblivion fearful to consider, devoid of all thought, sense, motion.

"Slowly, dreamily, a half consciousness returned, so sweet, so delicious, that I seemed truly lapped in Elysium."

Here I was interrupted by Rodman, who took his pipe from his mouth, and rolled his eyes gravely to mine, without stirring his neck in the least.

"You must have had a pooty considerable a time of it, George, but suppose you drop the high-fe-luting and stick to the main facts."

Thus admonished, I went on: "I now beheld a group of those slim, delicate natives, the relics of the old Indian population, so ruthlessly slaughtered by Cortes and his followers, who were busily employed in making a circular excavation in the light soil, under the direction of the beautiful girl I had before seen. Having sunk this to a considerable depth, they brought forward an immense cauldron of terra cotta, and settled it firmly into the hole. Into this was cast aromatic oils, and splits of wood.

"At a motion of the girl, who approached the cauldron with a stern face, I observed she was followed by the huge rattlesnake which had performed his part in the dance with her. She lifted up a silver wand, tipped with opal stone, and pointed to the cauldron. There was a look from the serpent of almost human deprecation; but she was unrelenting, and the creature lifted himself upward, fold above fold, and slid within its depths. Instantly there was a crash of angry rattles, a rush as of a strata of wind, and another of the same species, and its mate, swelled the burden of the cauldron. One of the natives flung a burning torch within, and a pyramid of pure flame ascended from the midst. I saw the two writhe and whirl in rapid gyrations—lift themselves in a tall column from the center, and then were lost amid the fierce burning of the oils and aromatic woods. The natives joined hands in a dance; but the girl stood unmoved, bearing her silver wand aloft; and again all was silent, and I, unconscious of all but a delicious sense of repose."

"It may be you hanker after that kind of woman life!" retorted Rodman. "What happened after this?"

"I felt myself lifted upward and borne along at a slow pace. I tried to open my eyes, tried to speak, but in vain. I heard a low dirge chanted in the distance, and believed that my own burial was at hand. Could it be that they thought me dead? could it be that I was to be consigned a living, breathing victim to the earth by these ignorant barbarians? I could not move hand nor foot. Horrible visions flitted through my brain. Dismal yells and fiery cor-u-cations filled me with dismay. I saw shapes

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bending over me, every one of whom seemed compounded of elemental flame, and who, pointing to their breasts, showed a word written thereon which I strove frantically to decipher, but in vain.

"The dirge grew more loud and solemn, the air was heavy, damp, and confined. I now become conscious that the procession was threading the interior of a vast temple or pyramid, the stony chambers of which were filled with gigantic columns and statuary representing the ancient Aztec divinities. With difficult feet my bearers ascended the innumerable steps leading to the truncated apex of this vast Teocalla, and I felt the heavy breathing of the men, weary with their burden. The chant died away in the sepulchral chambers, and then the turn of an angle brought the melancholy sound in full diapason to the ear.

"Reaching the area above, the cool midnight air stole through a latticed chamber, and the dim stars glowed like burning gems from the blue empyrean. I no longer struggled with my fate. I was unable to move, but I felt neither dread nor suffering, nothing but a soft languor and sense of repose. I saw through my closed lids.

"Looking upward I beheld an immense cross rising in the pale light, solemn as the night of the Crucifixion. It was composed of stone, elaborately carved, and covered with hieroglyphics. At the base was the hollow Sacrificial Stone, over which swept masses of fine cotton, which trailed upon the floor, and was decorated with flowers. Priests were swinging censers of incense, and I saw in the distance a large obsidian mallet, which one of their number swung to and fro, as if eager to try its weight upon my brain.

"I felt myself lifted upward and laid upon the Stone of Sacrifice. Low sobs were audible, and the same lovely girl I had before seen knelt down beside me. The High Priest laid his hand upon her shoulder and said:

"'Is it well, Zalinka?'

"'It is well, my father.' Then she arose and flung herself at his feet and cried, imploringly, 'Give him to me for this night only. Leave me, my father, for I saved him once; and then I bow to the gods.'

"'So be it, my daughter;' and, waving his hand, the conclave departed.

"Then Zalinka, kneeling beside me, raised the white folds from my breast, and gazed upon my little cross with a weird, sad face. She receded from my side and looked up at the stony cross towering above us, and sighed heavily,

"'I *will* save him! He shall not die!' she murmured.

"Again she approached me; she laid her cool, beautiful cheek to mine, she placed her lovely arms around my neck and whispered, tenderly, passionately, words in a language hitherto incomprehensible, but now known and familiar to me. Suddenly she arose and pushed a stone, which moved in its silent groove, and the side of the cross revealed a subterranean passage, descending into the interior of the structure. Then it seemed as if a weight were removed from my senses, and I sprang to my feet, crying, ''Zalinka, beautiful Zalinka.'"

It appears these words were audibly spoken, as my vision receded, and caused Cora no little irritation.

CHAPTER III.

Sister Electa—Opinions of a Shaker—Cora—A Pretty One Talks.

IN this veritable story which I am recording, I shall permit the Professor to relate his portion of it in his own way, reserving to myself the historian's privilege of filling up the details as events may transpire.

Sister Electa, who was now an inmate in the family of the Professor, had sought him many years before the opening of our story, and in a few simple words explained that she wished to place herself under his tutelage for the sake of acquiring that knowledge which had been denied her under the austere rule of the Community. The bachelor student at first was greatly embarrassed at this proposition, coming from a staid, handsome girl, whose nun-like aspect presented no little attractions to a man so simple-hearted, studious, and unworldly as our good Professor; but the straight-forward, matter-of-fact way in which the young Electa made her wants known, not only assured him, but totally blinded his eyes to the many attractions which concentered themselves under her uncouth dress and simple manners.

She was hungering and thirsting for knowledge; she had no vestige of the vanity and the coquetry supposed to be inherent in the sex, and once admitted to the storehouse of ideas, she bent her large spiritual eyes over the book and lost all consciousness of the presence of her teacher, who felt a pride in seeing that she kept up with the class of students in the College, and went beyond most of them in clearness and thoroughness of comprehension.

At intervals she returned to the Shaker Com-

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munity, remaining with them through the long vacations of the College, and returning to her studies again with renewed zest and enthusiasm. Thus years passed away in a sort of dreamy content, both teacher and pupil feeling the need of each other; both feeling a gentle roundness of life by this pure companionship, but neither breast stirred by any deeper, dangerous, or more absorbing passion for the other. It was a beautiful friendship, such as can exist between the sexes only when the pursuits of the two are intellectual.

It was after one of these seclusions that Electa returned to find her friend a married man. The heart of the fair student certainly contracted with a pang at this, for marriage occupies no place in the Shaker vocabulary; and everywhere marriage is a sort of domestic earthquake, tearing asunder cherished relations, and burying under a lava-tide much that had hitherto been of lovely seeming in the experience of the parties.

But whatever might have been the thoughts or emotions of Electa, the Professor never once thought that his beloved pupil would feel aught but delight in the augmented happiness of her friend, and he hastened to bring the two women together with an almost childish delight. Fortunately, the instincts and intuitions of the Professor were of that genial, wholesome kind that only persons somewhat akin in character were drawn into the sphere of intimacy with him, and the young wife and favorite pupil became at once attached friends.

Sister Electa was domesticated in the family, and this new experience of the Professor which, as we have seen, left poor little Cora ill at ease, and rendered the presence of a wise, discriminating friend exceedingly grateful to her. Cora was so pretty, so child-like, and petulant, that she kept all about her in a perpetual and not unharmonious ferment. The Professor was certainly greatly hindered in his pursuits by her exactions, but he bore it patiently, and submitted to her whims with a gentle docility quite touching to witness.

Not long after the Professor commenced dreaming, Cora, who had followed his retreating figure with a serious face and wistful eyes, arose and walked up and down the room with a perfectly wo-begone air. It was as painful to see her distressed, as it is to see the unnatural thoughtfulness of a young child. She was perplexed and troubled, without clearly understanding whether she had reason for so being. She felt as if something had been lost to her, but could not tell what it was.

Suddenly, she turned to Sister Electa, who sat at her needle, and exclaimed:

"Sister Electa, you have never told me why you left the Shakers. Tell me all about it. I wish I could go and join them."

"Thee is a foolish child, Cora. Thee does not know what will please thee."

"I know all that—I know I am bad, and weak; don't fret me," and her delicate chin quivered. "Tell me why you came away; there 's a dear."

"Why did the raven leave the Ark?"

"It was sent forth."

"Did the raven ever go back, Cora?"

"No, surely; why should it have gone back?"

"It has been a bird of *ill omen* ever since."

"But the dear, loving dove returned."

"Yes, when the great, overwhelming deluge had passed over him. Thee will learn, Cora, that in this life, unless we are dwarfed in soul, and can find no more significance in our being, that we must go out, or be driven out of our strongholds."

"Oh dear, dear! I do not understand one-half that you and the Professor talk about. It puzzles me and tires me, and is of no use. But you are the happiest woman in the world, Sister Electa."

"Why does thee think so?"

"Because you have your own way, and were not obliged to be married."

"The first is doubtful; God does not permit his creatures to follow out their own desires in this world. Nothing but disorder would ensue; and as to the last, my sect renounce the world, and do not marry."

"I wish my mother had sent me to the Shakers when I was a baby," and she snipped off the thread of her embroidery, as if it were of equal importance with the subject under discussion.

"But, surely, thee loves the good Professor, Cora?"

"Oh yes, I suppose so; good old boy! But my mother picked him out for me, and now quarrels with him, and makes me behave badly. I am sure I torment him, and do not mean to do so."

"Thee is very unreasonable, child."

"There now, Sister Electa, every body can see that; so do not talk about it. My mother used to tell me I was ugly, and must get married early."

"She did thee a wrong, Cora; for thee is very pretty."

"So George tells me;" she did not call him Professor this time, but tossed her head com-

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placently. "You despise my mother; I see you do."

"I think her a very worldly, selfish woman; but it is not right to discuss her to thee, Cora."

"My mother worldly! why she is very religious—goes to church every Sunday, and every Thursday evening, and never laughs on Fast days." Cora twisted her mouth almost in the shape of the scallop she was turning, as she made this remark.

"Thee married George from choice; did thee not, Cora?"

"Oh! to be sure I did; he is so young, and so old, and so good, and so wise, and so patient with poor little me; how can I help loving him? But Mamma says there is no need of loving your husband; she says she did not much love my father. Poor, dear Papa! He was so kind, and tried so hard to please her. I heard him say once there was nothing in this world so uncertain as a woman's temper, and I believe him; I think we are hateful."

"I hope thee's mother was kind in return to so good a man, Cora. I am not quite sure that we ought to be talking in this way."

"Oh, nobody can resist you, Sister Electa. Somehow it is a sort of relief to tell you every thing. I feel so fresh and happy when I have let out all the bad in me. But I am not quite right with George, though I shall not tell you about it yet. Oh, it is a great, terrible secret!"

"If it concerns thee's husband, Cora, thee ought not to tell it. It is his secret as well as yours, and must be held sacred."

"I know all that tiresome kind of wisdom, Sister Electa; I have a great many thoughts that are not clear to me, and they make me very unhappy."

"Thee should write them out; write and read them, and think, think, till thee's mind is clear."

"That would make me a literary woman, and I despise the very thought, even if I had wit—no, mind enough to be one."

"I do not see why thee should despise them."

"George said the other day, a woman ought to let her husband do all the thinking for her, and I am sure that is a nice, easy way. He says, to see a woman's name in the papers and on boards and fences, is a perfect scandal."

"I do not see how that is to harm her, if she is associated with what is good and noble."

"I do not think I shall ever think any thing worth printing, and so I tell all my thoughts to George; and you should see him laugh sometimes. One day I told him I wished I was Eve, in the Garden of Eden. And he replied:

"I would not object, provided I could be Adam."

The Professor had entered as Cora said this, and he leaned over her chair, playing tenderly with the ringlets of the pretty head.

"But I do not think I should love Adam," retorted the capricious beauty.

"What was there else for Eve to love?"

"God, and the angels. Adam was not much of a man; *my* Adam would not have touched *my* apple; and he would not have loved me any the less because I wanted to be wise." Cora looked up to the face of her husband with a pretty, girlish blush as she said this.

"I have sometimes thought," mused the Professor with an abstracted air, "that it might be a subject of curious interest, could we collect the first utterances of persons as they first awake from sleep to consciousness. We listen with interest, and repeat as oracles the last words of those who close their eyes to their last sublunary slumber, and I doubt not many a mystic oracle has found expression as we emerge from the shadow-land of sleep."

Cora's face assumed an expression at first grave, and then painful, and she whispered:

"Have a care, George!"

He did not seem to observe her, but stooped down and kissed one of her curls, and went on with the same abstracted look:

"I think, to dream well, a person must be in health, and Eden-young in character. I think a person of ordinary talents may have genius in sleep; just as the poet is not alwas on the mount of inspiration, but has his moments of divine afflatus, akin to the wonderful visions of the dreamer. I never close my eyes without a sense of ecstatic joy."

"I'll put my head close to yours, George, and take your dream; I am sure you have no right to dream in the way you do."

"It does no harm, my darling little wife, that I dream; indeed, I wish she could go along with me, and see the beautiful countries through which I pass, and realize the proximity of thousands of years ago to-day, only I fear it might make her beautiful little head ache."

He had seated himself upon the sofa beside her, and with a tender playfulness clasped and unclasped the bracelet upon her arm; while she looked eagerly, and not a little anxiously into his serene, manly face. It was a pretty picture, the two thus seated.

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CHAPTER IV.

THE PROFESSOR DREAMS AND BEGINS WHERE HE LEFT OFF IN HIS FORMER VISION. HE RATHER LIKES HIS DOUBLE LIFE.

THE Professor had no control over his resuming visions—they came in spite of himself. In spite of his volition, he found himself reviving like an inner consciousness—a vast, sensuous experience amid the gorgeous luxuriance of tropical life; moving amid the stupendous structures which in our day baffle the scrutiny of the antiquarian, and participating in a worship repugnant to the progressive ideas of a more spiritualized creed. He was happy in the routine of his daily avocations so well adapted to his quiet, scholarly tastes, and yet he renewed again and again the thrilling emotions of his dream experience, as if assured through it of a double existence—a life in to-day, and a revived reminiscence of a foregone, broader, more subtle, but less intellectual being. He thus writes:

"The back of the head is the storehouse of memory. How fearful it would be if the whole experience of a past *ens* could be unfolded like a written book before us! I was talking with Cora, and my wondrous pupil, Electa, when all at once, the carpeted room, and the sweet faces of modern womanhood were shut out from my range of vision, and the luxuriant vegetation of the tropics arose to view, and I was relating my story to my friend Rodman, the hunter, who belongs to still another experience, and an experience foreign to the days and the years which I have known since a muling child I sat upon my nurse's knee in this present State of Maine. Rodman was looking into my face with a puzzled expression, and asked:

"Are you often taken in this way?"

"I do not understand you."

"You fell away to sleep mighty easy, and I thought you might as well have it out, so I threw on some stuff to make a blaze to keep these confounded mosquitoes off. Better now?"

"Better! I haven't been bad; never was better in my life. Let me see, where was I when you interrupted me?"

I did not like the sharp, incredulous look of Rodman, as he held his pipe a half-yard from his mouth and blew the smoke out slowly from between his lips. Placing it leisurely in his mouth, he drew a whiff or two before he answered:

"You wer' tellin' about that gal, Zalinka. Pooty girl, with a softish kind of a heart."

"Oh! yes, I remember; my senses were suddenly restored to me, and I sprang to my feet, crying, 'Zalinka, beautiful Zalinka!' She placed her finger upon her lip, in token of silence, and taking my hand in hers approached the entrance to the passage thus opened within the figure of the gigantic cross. I looked upward and beheld the beautiful constellation of the Southern Cross in the sky, the archetype of the image which stood vast and mysterious, topping the solitary splendors of this ancient cone-like structure wherein man has expressed his crude sentiment of worship. My bosom was bared to the breeze, and Zalinka pointed with her finger to the sign of the cross thereon and then lifted her eyes reverently to the towering symbol above us, and onward to the starry, symbolic constellation in the heavens.

"'I also have the stigmata of one form, the earliest idea of worship,' whispered Zalinka, and loosening the white robe from her smooth delicate shoulder, I saw thereon the faint outline of a serpent, like a ruby stain.

"Zalinka suddenly stooped and listened, and her face grew deadly pale—I too listened, and up from the chambers below swelled the hymns of the priests as they ascended slowly the long stone steps leading to the tower of sacrifice. She wept, or rather tears fell from her eyes, and she stooped down the stair-case and sang in a low, plaintive voice a response to the hymn:

"Take the life-blood, O Life-Giver!
Back to thee the fount we send;
Open wide the starry vistas,
Let the approving gods descend.
Mystic Serpent! mystic Cross!
Fount of life, to life returning—
Whet the knife, the bosom bare,
High the altar-flame is burning.

"She sang the last words in a shrill, ecstatic voice, and immediately applied a torch to the altar-pile. Her action had the effect of delaying the approach of the hierarchy, and for one moment the flame revealed to me the whole vast area surrounding the temple filled with a sea of upturned faces; far as the eye could reach was a vast multitude of worshipers, who, as the flame towered to heaven, as by one movement prostrated themselves upon the earth. I should have been in bold relief upon the stone tower with its pyramid of flame, raised hundreds of feet above the heads of the mass below, had not Zalinka pushed me within the doorway to the cross, as I before said.

"Calm as death stood Zalinka, with her arms raised aloft, and her long hair falling like a vail

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about her. She approached the verge of the parapet—the sides of the pyramid faced the cardinal points—she turned to the west; she knelt down; she tore a girdle studded with gems from her waist and held it aloft; she severed a lock from her hair and cast it to the western winds. A shout arose from the multitude as they saw the beautiful token borne upward—upward over the city, away in the dim distance, till it was lost to the eye.

"'Quick! quick!' cried Zalinka, 'push the altar-stone of sacrifice! Oh! ye everlasting gods, pity thy child!'

"I did as she bade me, she lending her eager hand to the work. It had been placed upon rollers and the vast structure of stone now slid easily along its groove, and with a sharp, vibrating clang settled over the aperture of the staircase leading to the altar.

"A great cry—a voice of wonder, dismay, execration, swelling to a howl, arose from the multitude beneath, for the clo ing up of the temple was an omen of evil, and betokened that the gods had left the sanctuary and the priestess was dead upon the altar. Slowly faded the lurid flames, and at length night and silence settled over the deserted temple.

"'Now, follow, speak not, and beware that you stumble not, for the way is long and dark.'

"I took her hand, and would have clasped the jeweled wrist, but she shook mine from its hold and moved onward."

"A well-behaved, modest young woman in my opinion; though the way in which she cheated the dusky varmints lookin' up to her, might be a caution to a discreet man, I am thinkin'."

"It was a part of her religion, Rodman. She was trained to it."

"They thought she staid up there and died, or was borne bodily to them sunshiney places and mooney islands, where they supposed men and women would be eternally eatin' buffalo, and drinkin' blood out of the skulls of their enemies! eh?"

"Of course, they knew of no way for her escape, that being a secret of the priesthood."

"To my mind, a set of cheatin' scoundrels, who'll be eternally roasted in the fire and brimstone they are so fond of tellin' about." And Rodman shook the ashes out of his pipe, and put in a new stock of tobacco with his thumb. "And so for ever after, them stairs was thought to lead to nothing, and grew to be a wonder," he continued.

"I have no doubt they will, unless I live long enough to tell the story. Zalinka bent down her ear to a small opening in the structure, and said sorrowfully:

"'It is my father! He calls for his child! come!'

"By this time we had entered within the stone cross, and with my help we swung together the two doors closing the entrance. I thought the clang would never cease its vibrations along the interminable vaults. Zalinka still lead me on in total darkness and utter silence, except that she gave me the signal of descent by means of broad, shallow steps, which I was aware led to the top of the Teocalla. Our way was necessarily slow and labored, yet I had such confidence in my beautiful guide that I had no fear.

"Threading our way through these sepulchral chambers the air become heavy and damp, and a giddiness seized me.

"'A little longer and we are safe,' whispered the young priestess, and she pressed onward. Turning a sharp angle, the passage became so narrow that I felt my way along the wall, and presently the cool air came refreshingly to my brain, and we were in one of the minor corridors of the structure, long and narrow, and intersected by others leading to various parts of the temple.

"Leaving this we emerged upon a stone balcony overlooking the river, and far above the base of the pyramid. The loveliness of the scene, the cool flow of the water, the aroma of sweet tropical plants, stealing through vistas of the palm tree, the plantain and mahogany with its deep foliage; the screams of parrots and monkeys, startled by some wild beast or stealthy serpent from their slumbers, rendered the aspect of nature at once solemn and beautiful.

"From our position in the shadow of the dark walls we could see and hear the slightest movement upon the river, ourselves hidden from observation. Zalinka had thrown a mantle of ample size over her shoulders, which entirely concealed her person, but her large, lustrous eyes outshone in splendor the bright stars to which they were raised. She did not heed my presence, nor turn her fair face one moment to mine.

"'Will they seek thee, Zalinka?' I inquired.

"'Yes; even now I hear the dip of their oars descending the river.'

"'O Zalinka, what fate awaits thee?' and I drew the cold hand to my breast as I spoke.

"She turned her eyes slowly to mine, and the white lips whispered:

"'Only death!'

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"At this moment the notes of many voices singing in unison grew more and more distinct, and I could distinguish the words:

"Slow wanes the night;
Ere morning light
Thy sacred face shall see
Our pearl so rare,
Our blossom fair,
An offering unto Thee.
Bright dwellers of the sky
Look down with pitying eye.

"O Virgin Bride,
So true and tried,
Scorn not the gift we bring;
Fling open wide
Thy gates beside,
Let music outward ring.
Her virgin feet must tread
The pathway of the dead.

"As the hymn in slow measured cadence approached, Zalinka instinctively drew nearer to my side, and grasped my wrist convulsively. We gazed from our position upon the river as the boats drew nearer. There were twelve boats, each bearing the priests of the temple, in their white sacerdotal robes, with hands folded upon their breasts, and faces of a stony calmness. One by one they disappeared under the subterraneous channel constructed beneath the foundations of the Teocalla. Nearer, nearer grew the voices, and we knew they were ascending the steps which led to the chambers above. Nearer, nearer, and the sweeping of their long robes, and the measured tread of their sandaled feet were plainly to be heard in the corridor from which we had emerged. Nearer, nearer, and it seemed to me that I felt the breath of the cold, ghastly band, as I could distinctly hear their labored breathing as they toiled along the fatiguing pathway, preceded by a band of beautiful maidens wreathed with flowers, and each bearing a torch in her hand, these last evidently brought from the recesses below. The lurid light of the flambeaux glared in upon us, lighting the river below, lighting the vivid coloring of the huge statues along the wall, showing the gorgeous blue and gold and crimson of the stuccoed recesses beyond, and, more appalling still, falling upon the cold, dead face of Zalinka, who had fainted in my arms.

"Each face as it passed seemed to glare upon the two wretched beings shuddering beneath the wall; every ray of light seemed searching, groping, and prying in subtile malignity, as if already exulting in our detection. A bat, startled by the light, flapped his filmy wing against my face, and a nocturnal bird from the top of a neighboring tower gave utterance to one of those unearthly cries that so often electrify the stranger in tropical regions. Would they never go by! I counted, counted, and grew weary at the task; the dirge-like tones even now come back to my nerves with that old horror, which had welded itself into my very being."

"You needn't worry yourself to bring it back, George, I see you had a narrow squeak of it. I've watched a painter, ready to spring on me, and the time seemed mighty long, and I ready to pull trigger; but it's sort of weakening to recall such things."

"At length the last white robe appeared, fluttered in the draft of air from the balcony, trailed a moment over the pavement, and then was gone, as the owner turned the angle and ascended the steps so lately trod by Zalinka and me.

"'Awake, awake, Zalinka!' I whispered, 'the danger is past.'

"She slowly lifted her eyes, and for a moment was bewildered and unable to collect her thoughts, then, quick as thought, she pushed aside a curtain in the wall and motioned me to follow. We descended again the stone parapet, emerging at intervals to the external wall, and then plunging again into damp, sepulchral chambers, silent as death.

"The faint light of morning began to glow ruby in the east, and the many voices of nature, responsive to the advent, filled the air with music of bird and insect, when we at length stopped in a room so delicate and yet so richly fashioned that my eyes were dazzled with its sumptuous furnishing. In the center was a silver vase from which issued the spray of a fountain whose waters fell into a basin of porphyry inlaid with gems. Niches filled with costly vases and rare flowers, and the walls covered in hieroglyphics, which I knew were choice words from the poets, and sacred religious oracles. Pure lilies were sculptured around images of a fair, serene face, grave and beautiful in matronly dignity. Cushions covered with the skins of humming birds, and curtains composed of feathers, floated from the ceiling and formed magnificent canopies over sofas whose frame, work was of massive silver.

"Sweeping aside a feathery curtain, an alcove formed in blue with silver stars was revealed, and a couch draped with snowy coverings.

"'Here you are safe; here none will intrude. Sleep in peace.'

"'And you, Zalinka?'

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"'The danger is past for the present.'

"She knelt down and clasped to her bosom the blossom of a plant which stood within the spray of the fountain, and with eyes whose intensity was overpowering, looked off into the void above, as if there she beheld what was invsible to other eyes, her lips repeating:

"Fair and beautiful is earth;
Fairer realms, to eye unseen
Serpent, scornéd in thy birth,
Lo! the Cross shall intervene.
Oh! blossom, fairest that the sun
Bends his glorious orb upon."

"And she held to her bosom the blossom of the *Expiritu sanctu*—that strange, beautiful blossom whose petals inclose the shape of a dove.

"Suddenly a multitude of small white doves appeared, and with soft cooings floated around her; some lighted upon her head, others on her delicate shoulder, while others dipped their crimson feet and ruby bills in the spray of the fountain. Zalinka moved nor eye, nor hand, till one alighted upon her fingers and kissed her red lips, then she arose, and with a bright smile exclaimed:

"'Oh, ye everlasting gods! I tremble before ye! I accept the augury, nevertheless. Life or death, darkness or light, joy or sorrow, I accept it all,' and she threw herself prostrate upon the earth. Rising at length, she whispered:

"'Sleep, O beloved Teomax! the divine mother accepts thee!'"

"I hope you told her your true name, George. A man may cheat a man who is expected to have wit and deviltry enough to take care of himself, but it's a sneaking trick to cheat a woman, it is."

The Dangers of Blistering.

BY DR. DAUVERGNE, PERE.

[*Translated from the Original French.*]

NOTE.—[As a general thing, blisters have been popular with the people, and their use among medical men, especially in the country, is very common. A majority of invalids submit to their application on themselves and their children, not only without thought of any danger, but with a belief that they are perfectly harmless. The cruelty practiced on children by their use is monstrous. We publish the following paper, translated from the French, with the belief that if non-professional people were better informed on some of the most common abuses of medical practice, physicians would make greater efforts to obtain better methods of treating their patients. Let the people have light on these topics, and abuses will soon disappear. They have driven blood-letting into the background, now let them drive blistering there, too.—*Ed. H. of H.*]

It was in 1835, after treating two patients with inflammation of the lungs ineffectually with large blisters, that I renounced that treatment, for I had perfectly satisfied myself: 1. That blisters in no way diminish the duration of the disease; 2. That they increase the febrile excitement, *i. e.* the general heat and the rapidity of circulation; 3. That they are a real misery to the patient, aggravated by the slightest movement, and especially at each dressing; 4. That each dressing involves danger, because it is necessary to uncover the chest, which momentarily checks the cutaneous transpiration, sacrificing the effects of a natural general revulsion for the sake of a limited and artificial one; 5. Finally, I perceived that a fresh inflammation developed near an inflamed part is more likely to aggravate than to divert the disease from the latter.

I observed also, at the same time, that ordinary pneumonia (lung fever), was neither mitigated nor diverted, since stethoscopic examination on the day following the application of the blisters revealed no modification of the physical signs, and the fever itself was really increased, just as if the blisters had never been applied.

What then is the good, I asked myself, of a treatment which does not diminish the local symptoms, which aggravates the general phenomena, which tortures the patients, and is

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likely to aggravate and almost always to prolong the disease by the mischief done in the necessary exposure of dressings, etc., etc.? I renounced the practice at once, and as I have never found any harm I have continued to dispense with it. But although I have given it up, many practitioners, especially country doctors, have not done so, for very often I find myself in absolute opposition with them on this point, and I am therefore now compelled to justify my practice, and to ask them for an explanation of theirs.

For my part, before employing a remedy which is painful, inconvenient, and disagreeable from the odor of suppuration, I should need to be well assured that it either diminishes the extent or arrests the progress of the disease. But I know of no one who has first demonstrated by stethoscopy the degree and extent of a pneumonia, and then, after blistering, has proved the diminution either of the extent or the intensity of the inflammation. Galen applied blisters because Asclepiades, Archigenes, Ætius, and Cælius Aurelianus had applied them. Cullen proclaimed them because Sydenham and Freind had eulogized them. Finally, which is the strangest and saddest thing, the popular as well as the medical *furore* for blistering has gone on increasing till we all fancy ourselves compelled to apply blisters. And all this when no one has given us any reason!

I will quote a few cases: 1. The first was that of a child of three years, affected with acute pleurisy and effusion, who after the application of a blister, proposed by the doctor and agreed to with transports of joy by the friends, experienced an increase of the effusion and of the fever, which became uncontrollable. The child sank, either from the artificial inflammation, or from the loss of valuable time.

2. The next case was that of a young man with typhoid fever. A colleague suggested blisters to the legs. It was in vain that I reminded him that, in reference even to idiopathic brain affections, Rochoux, so competent an authority, had said before the whole Academy that they were more harmful than useful, seeing that the pain they caused, far from removing the cerebral suffering or irritation, increased it, because it was the brain alone which perceived the pain produced in the legs. All these arguments paled before the enthusiasm of the surrounders, and the blisters were applied. And they *did* take, so effectually that when the young man had got quite well he was kept in bed by gangrenous wounds, which the cantharides plasters had caused.

Such facts fail to undeceive any practitioner "of robust faith," as Forget calls it, or the public which is victimized by it. The patient is always enchanted with remedies that produce a palpable effect which he sees with his eyes, and judges with his senses.

3. This spring I went to visit a child at its nurse's house, but could not find it. I called out; a boy of six or seven years came from a cabinet, walking slowly, gravely, like a little old man. He was pale, puffy, with bent head, his neck enveloped up to the ears in a handkerchief, and as stiff as if it had been screwed into an iron collar. "You have a blister on the nape of your neck?" I asked. "Yes." "You are ill?" "No." "Why, then, the blister?" "Oh," said he, with a little air of whimsical pride at being submitted to such a medication, "they put them on my arms, too," (touching each of his limbs, with a comic gesture, perhaps some ten times); "when one is done with they put on another." "And now that there is no more room on the arms, the neck has its turn? Do you cough?" "No." "You have headache?" "No." "You have nothing the matter with your eyes; why do they put so many blisters on you, then? Have you a little gland in the neck?" "Oh yes, but it only came lately." "Who is the doctor, then, who prescribed all this for you?" "We never see a doctor; my mother puts on the blisters, and the *pharmacien* gives me cod-liver oil."

The strange thing is, that many doctors would think themselves helpless if they had no more blisters; for one of them, assuredly in good faith, asked me naively, "But what can we do then?" I had the opportunity of showing him what to do in the case of one of his patients, the first sight of whom profoundly saddened me. It was a child of four years, confined to bed for the last two months with bronchitis, which had been constantly, successively, and solely treated by blisters on the arms and round the chest. One or two were always kept suppurating. The little patient was like a mummy; the emaciation was so great that the dental arches protruded as in a monkey's face, or a skeleton, so thin were the lips, and so very large the mouth. The eyes were deeply hollowed, and the cheeks stretched over the malar bones. The child was lying with head bent, hanging by its own weight, so incapable was the wasted neck of sustaining it. But when I was going to take his arm to feel the pulse, he sprang up like a lion, open-mouthed, to bite my hand. "What is that for?" I asked the mother. "Ah, sir," said she, "he thought you were going to dress his blisters. He always does that when we go

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to dress them, and we are obliged to hold him." What could be done in the condition of this poor martyr? The blisters had not removed his cough, his pulse was small and rapid, his skin dry, hot, almost like parchment. I did not hesitate to advise tepid whole-baths in bran water to calm the pain of the blisters, and moisten the skin a little. I ordered demulcent drinks and milk (first diluted and then pure), to diminish the fever and the bronchial inflammation. This treatment gave immediate relief, and ultimately cured the patient.

Do you want facts that speak more loudly? Must you have plainer proofs of the uselessness the abuse, the dangers, the tortures of these blisters? Is not this pure practice, and that of the worst kind?

On what is blistering founded? Upon an idea of revulsion.* And the physicians who employ it pretend to repudiate theory! Must we for ever repeat, that practice can only be the result of a preliminary idea which inspires it? Well, this idea of revulsion, on what is it based? On this aphorism of Hippocrates: *Duobus doloribus simul obortis vehementior obscurat alterum.* Yes, but in the first place pains are not inflammations, nor even congestions, and to obscure or to mask a thing is not to divert or to destroy it. Yes, the old man of Cos was right when he said that a stronger pain can mask a weaker; but he was talking of a phenomenon of sensation. If a violent toothache comes after a rheumatism, it will make one forget the latter. It is very common for a mental pre-occupation, caused by pecuniary loss, to be quite effaced by the loss of a child or a beloved wife. It is known that a neuralgia or a neurosis may be cured by a strong emotion, or by a lengthened pre-occupation of mind. For instance, Barras forgot, and was cured of his gastralgia in the grief of seeing his daughter fall ill and die of phthisis. It is in this way that the cures of the bone-setters, the sorcerers, are to be explained.

Moreover, the aphorism of Hippocrates, on which the whole theory of revulsion is founded, could not be applicable to an inflammation artificially set up, even at a distant point, because the two inflamed parts are connected by the medium of the circulation, which is excited in direct proportion to the number and extent of these inflammations. Do we not see and know constantly, that an affection, an inflammation, is by so much the graver when it is complicated with another? But what are the wounds of blisters but little inflammations, nay, often serious inflammations?

A fortiori, if we create inflammations near to disease, not only is there the chance of failing to divert the latter, we run the risk of imitating, as one of my most illustrious teachers, Richerand, often said, a blind man armed with a stick, who should strike sometimes the disease, and sometimes the patient.

I have never understood the theory, and consequently have never employed or consented to the practice of applying blisters to the head in cerebral inflammation. In the first place, I have never seen any but disastrous results from the treatment; and, secondly, it ist he height of illogicality to make an ulceration—an inflammation—on the scalp when there is already an inflammation of the brain, and perhaps of the membranes; although in the case of erysipelatous inflammation of the scalp we so dread lest the cutaneous inflammation should extend to the membranes, or to the brain itself.

Let us quote Velpeau himself: "The action of blisters is limited to hastening and deciding a suppuration * or a resolution which was previously uncertain, when one applies them at the prominent point of indurated masses.

It is going a long way to accord to blisters two actions at once which are entirely opposed to each other, and, notwithstanding the respect which I retain for this great surgeon, I can only see here a physiological contradiction; and in any case it would remain to prove from practice whether blisters do not more readily produce suppuration than resolution of inflammations. That is what Velpeau should first have determined; the more so because, in the cases where he only aimed at resolution, he ought to prefer compression,† for a few lines further on he adds: "I might say nearly the same of compression as I have said of blisters. In all diffused subcutaneous inflammations, taken at the early stage, a compression carefully made, a roller-bandage methodically and ingeniously applied, constitutes the *best possible means of resolution.*"

Surely it would need much less than this last expression to put an end to all competition between compression and blisters, and to give the preference to the former. If there were any doubt about it, one might take the patient's own opinion.

* Revulsion means the art of turning the disease from the point where it seems to be located.

* In popular language, suppuration means about the same as bringing to a head, as in case of a boil, and resolution means to scatter or remove.

† Compression is the application of pressure by rollers and bandages to swelled and inflamed parts.

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Treatment of Children between the Ages of Six Months and Two Years.

BY MRS. H. C. BIRDSALL.

IN a former number I gave my views, derived from my own personal experience, upon the force of habit in the case of infants, claiming that a child could be taught a number of good habits before it reached the age of six months.

When a young lady, as I visited among my friends, I saw so many things in the management of children that I thought were wrong, that I collected and stored away a number of theories. My pet theory, viz.: that all children will be gentle and lamb-like, if treated gently and considerately, has exploded; and, with the explosion has passed away all desire for such a state of affairs.

The amiable, yielding, weak-willed child is no dearer to me than the strong-willed, determined one, who yields only because he ought and must.

Between the ages of six months and two years a child learns a great deal, more, I think, than ever again in the same length of time. He should be taught in this time to be self-reliant, obedient, and helpful.

Your child has learned to sit alone and to creep; and now he is persistently trying to pull up by a chair. There! he is up! and what a weak little creature he is, not able to balance himself, swaying to and fro, only sustained by the strength of his little hands.

That is not much, mother, but do not disturb him and hurt his dignity (for he has some dignity) by taking hold of him. Sit near him, if you please, so that you may save him from any severe fall, but hands off! There he goes! some noise he made, but did you sit still long enough to see that he was not hurt? If you did not, you made a mistake; for, if he is uninjured, you have frightened him into crying, and if he was hurt, you have only added to his alarm by jumping at him.

Control, with all the strength of your mind, the disposition to start or scream at his face. If he is only alarmed, look at him with a smiling face and encourage him to get up himself. Do not take him up and condole with him upon his fall, but say cheerily, "Up again! never mind!" He will soon learn from such treatment to make a distinction between real and supposed injuries, and will be far less likely to receive them, because he has learned confidence in himself and is daily growing stronger.

Some day you lose sight of your child for a few minutes, and when you find him he is nearly at the top of the stairs.

Control yourself—don't make a rush at him, frightening him so that he falls back down the stairs. Go to him quietly; do not snatch him up, but place yourself close behind him and encourage him to finish his course to the top of the stairs. Hereafter, see that the doors are kept closed, or the stairs are so guarded that he can not get to them when he is alone. Whenever you are with him going up stairs, put him down and allow him the great pleasure of conquering them by himself. Another time you find him trying to arrange a set of blocks in the box to which they belong. He puts them all in but two or three, but these will not go right. His nervous little fingers tremble and his cheeks glow with his eagerness—do not help him. It is not so much that he wants to see the blocks in their places, as it is that he wants to put them there himself.

It occurs to me that a child of despondent temperament might give up an attempt of this kind, if he did not meet with success. In such a case a little assistance would be advisable; and this leads me to mention the duty of every mother to carefully watch both the moral and physical characters of her children, and to treat them accordingly. I think that very young infants, if well, can be treated nearly alike.

When the time for moral training arrives, there must be different methods for different children. Be gentle whenever you can—stern, you sometimes must be—loving, you can always be.

Be tender-hearted, but strong-nerved. Before your child is a year old there may be occasions for teaching him obedience. "My precious pet be made to mind before he is a year old?" cries a young mother, "indeed, he shall not. He shall have every thing he wants and do every thing he likes, until he is four or five years old. There will be plenty of time then to talk about my baby minding." Do not deceive yourself by any such plan as this. If you let your child go ungoverned now, he will, in all probability, grow to manhood ungoverned, and will look back to his childhood and blame his mother for not teaching him obedience while he was still at an age to be bent. I know of a

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gentleman, who says that one of the greatest drawbacks of his life had been the fact of his being ungoverned when he was a child, and being allowed all he desired.

As an instance, one rainy day he cried for the front gate, and his mother sent a servant to remove it from its hinges and bring it into the parlor.

The occasions for enforcing obedience before the age of twelve months may be rare, but they may occur. You are drawing your child in his carriage, and he takes hold of the wheel with his tiny hand, you gently remove it, but he looks in your face with a mischievous but determined air, and puts his hand again on the wheel. Again you remove it, and again it is replaced, this time with a scream of impatience.

The child is old enough to disobey—he is also old enough to obey. Therefore inflict some slight pain upon him, a little slap upon the offending hand will probably be enough.

You call this cruel; would it not be more cruel to allow the child to incur the risk of injuring his hand in the wheel?

You are sweeping a room; the little rogue creeps in front of you and plants himself in the dirt that you are heaping up.

You take him away and give him playthings to amuse him; he won't be amused, but comes scrambling back as fast as his legs will carry him. Do not stop your work for him, but take him away again and put him in a chair or some place from which he can not come back to you. Great care must be taken to exact neither too much or too little obedience from very young children. I earnestly believe in a certain amount of judicious letting alone.

You find your child playing with something which you prize and do not consider a proper plaything for him, and which has been carelessly left within his reach. It is an article which he will not injure at one playing, but which would be spoiled in time if he were allowed its daily use as a plaything. He is very earnest over it and delighted; and, if you should take it from him, he would consider himself badly treated, and would propably show it, too. So let him keep it until he is tired of it or until something diverts his attention; then put it away where he will not reach it again.

Teach your children to look upon it as a privilege to help others, not as a duty. Do not, while a child is very young, give him any routine of duties, but, as necessity requires, send him about the house to fetch and carry small articles.

The physical treatment of children is important, but simple, if one wishes to make it so. The main points are bathing, regularity of eating and sleeping hours, simplicity of food, and out-of-door exercise.

The habit of daily bathing should not be suspended when a child is a few months old. It is very little trouble, and, done handily, takes little time. My experience has been that it is not best to bathe a child in entirely cold water. When he is put for the first time in a bath tub, the water should be of such a temperature that he may not perceive the transition from the air to the water. I have often heard mothers say that their children could not be bathed, that they screamed as soon as they touched the water. There are, ordinarily, but two causes for this, either that the child was not introduced to the bath tub early enough in his existence, or that the temperature of the water was such as to shock him. When your baby is thoroughly accustomed to the tub, you can gradually reduce the temperature of the water until, after a few months, you can wash him in almost cold water.

A child should eat regularly and simply, but should have some variety of food. I have found that a child soon tires of one article if confined to it.

Bread and milk, bread and butter, different forms of toasted bread, boiled hominy, Indian mush, cracker panada, simple preparations of corn starch, rice boiled in milk, and roasted potatoes, make a sufficient variety. Give your child plenty of exercise in the open air. If you live in the city, all I can say is, do the best you can; but, if you live in the country, with space about you and gates well secured, put your child out-of-doors and let him wander about at his will. In summer, leave him out all day, if he enjoys it; in winter, wrap him up and send him out in moderate and pleasant weather.

Let him get as dirty as he pleases. His face will keep pretty clean if he spends enough time in the open air to prevent his taking bad colds, and if you do not allow him to eat between meals.

It is somewhat trying to see your little boy or girl reveling in the midst of a pile of dirt, especially when you remember that Mrs. C., whose children always look as if they had just issued from bandbox retirement, may possibly call and gaze with virtuously reproving eyes, but never mind that. You are living for your child; you know what is best for its health and happiness, and do not allow yourself to be moved from the course which you know to be right, by any false fear or false pride.

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Time vs. Memory.

BY FRANCES DANA GAGE.

'TIS said that Time 's an arrant thief,
Who steals away our treasures,
Making our happiest moments brief,
And leaving pains for pleasures.

That though we strive, and weep, and sigh,
And beg them not to leave us,
'T is useless, and the more we cry,
The more Old Time will grieve us.

I think there 's some mistake in this,
For, spite of cynic laughter,
I know, if I 've enjoyed a bliss,
'T is mine for ever after.

The flower that blossoms for the morn
Must wither with the morning;
And should it leave us all forlorn,
All other flowers scorning?

There is a bud, somewhere about,
Will ope for us to-morrow,
If we do n't crush its brightness
By useless, pining sorrow.

Who cares for Time's swift-going wings,
While Memory has the power
To gather up all pleasant things,
And bring them back each hour!

Deal Gently with the Little Ones.

HE who checks a child with terror,
Stops its play and stills its song,
Not alone commits an error,
But a grievous moral wrong.

Give it play, and never fear it,
Active life is no defect;
Never, never break its spirit;
Curb it only to direct.

Would you stop the flowing river,
Thinking it would cease to flow?
Onward must it flow for ever;
Better teach it where to go.—*Selected.*

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Generosity and Benevolence.

BY REV. HENRY WARD BEECHER.

GENEROSITY is that tendency to kindness which is produced through the senses, and which depends for its strength and continuance upon the report of the senses. Benevolence, while it includes this, is characteristically that tendency of kindness which addresses itself to the reflective faculties and the moral sense. Generosity is the kindness of the lower nature. Benevolence is the kindness of the higher nature. The one carries with it the *sense* element. The other carries with it the *soul* element. Generosity is the kindness of our bodily life, and the faculties which are more immediately connected with it. Benevolence is the kindness of the soul-life, and the faculties belonging to it.

Generosity, then, is largely a physical trait, depending on the senses; on the nerves; on the conditions of the body. Benevolence is the disposition of the spiritual elements—the higher powers in men.

Let us illustrate the operation of these two elements:

In the higher Alps there was a town that Pastor Oberlin took for his charge. Poor were the inhabitants. The soil was meager. The seasons were inclement. The people were very ignorant and vicious, and much neglected. A more hopeless set of beings could hardly be conceived of. Had a merely generous man gone to this parish of the Pastor of the Alps he would doubtless have sent medicine to the sick, given food to the hungry, and provided clothes for those who were shivering with cold. He would have relieved their outside wants as fast as they were presented to him. That would have been generous. But what was the conduct of the Pastor of the Alps? He, too, gave medicine to the sick, food to the hungry, and clothes to the naked. He afforded bodily relief, as far and as fast as he could. But he reflected on the causes of sickness, and hunger, and nakedness; and while he was for the hour and the day relieving the exhibition of these things, he had it in his heart to go back and remedy them in the very fountain. He went to the invisible source of the evils. He commenced a systematic, gradual remedy, not merely of their exterior troubles, but of interior ones as well. He founded schools. He taught agriculture. He went from house to house to inspire the people with not only industry and economy, but neatness and refinement. While on the Sabbath he taught them Christian truths, during the week he carried on these Christian truths, by teaching them how to lift themselves above poverty, and meanness, and want. And after a few years his parishioners became as distinguished for thrift and happiness as before they had been for misery and poverty.

To give them bread to relieve their hunger was generosity; to give them clothes to protect them from cold was generosity; to supply their immediate bodily wants was generosity; but to give them power to make their own bread, to give them skill to make their own raiment, to give them that inward power which qualifies one to control the wants of every hour, was benevolence—a much higher and nobler development than mere generosity.

Benevolence, then, is the kindness of faith, or the spiritual element in man; generosity is the kindness of sight, or the bodily element. The one is transient, evanescent; the other is permanent and comprehensive.

Let us consider the advantages and dangers of these elements, taken separately and alone:

Generosity is prompt, is unselfish in act, and is designed for celerity and instantaneousness. And for such a spirit to manifest itself, there is sufficient opportunity in life. There is much suffering that needs instant relief. If we propose to give permanent relief, the road to that permanence is through immediate relief. Even when you would cause a radical remedy, you must meet the outcropping evils till your remedy can act. It may be that water on the forehead will not cure the disease, but while the medicines are operating in the system it may soothe the pain. It is well to mitigate the suffering of the patient while the process of cure is going on. And although generosity may not be adapted to touch the seat of the difficulty, yet you are reaching far in by Christian benevolence to touch the causes of things. The passing hour may be soothed and comforted by generosity. It produces a beautiful element in the human character. It makes men appear noble and winning. It impresses common and ignorant persons with the royalty of goodness ten fold as much as greater kindness addressed to the soul, and not to the senses. It may be that a Bible given to a man is the prolific cause of all worldly good, when he knows how to use it;

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but before he knows how to use it a loaf of bread is more a sign of goodness in his sight than the Bible. Before men know how to appreciate spiritual things you must reach their confidence and good will, by things addressed to their physical senses.

But where generosity is not based on the higher element of benevolence, it is brief, evanescent, and so unable to cope with the great duties which Christianity inspires. This world is to be disenthralled, regenerated. It is to be developed from age to age, and more and more; but its regeneration and development can not be accomplished by evanescent spirts of generosity. They must be the result of the permanent work of benevolence. Generosity is good for an hour; benevolence for ages. Generosity does not seek out evil. It does not *go about* doing good. It is stationary. It relieves the want that is presented to it, and no other. It stays at home and responds to the call of those that come for its benefaction, and those only. It is narrow, and feels merely for such things as are most striking to the senses. It is not affected by things that appeal to reason, and faith, and moral sense. It is liable to great self-deception, so that generous men often become conceited, and lie to themselves. Men praise generosity more than benevolence, simply because more men live so low that they understand generosity rather than benevolence, and material gifts rather than benefactions of the spirit; and the generous man measures his generosity, not so much by the rule by which God measures it, as by the praises of others. And so men whose kindness is shallow; men who, every hour of the day, do something, though what they do is no deeper than their palm or their pocket, always have the reputation of being noble natures, while other men, who give their time, their thought, their feeling, their very life, and have nothing else to give, are looked upon as, comparatively speaking, uncharitable.

Now, experience teaches us that there is nothing in this world so cheap as giving. If a poor man comes to my door, and I give him a quarter, and send him away, I buy my own peace with that quarter. To take my hat and go with him to the miserable den where he lives, and explore the history of his case, and ascertain what his wants are, and institute a systematic remedy for his troubles which shall relieve them, not for to-day merely, but for his whole life—that would be benevolence; and it is a cheap commutation to give him a quarter and turn him off.

Benevolence is the child of reflection. It is comprehensive. It deals rather with the causes of things than with their aspects and effects. It acts not only in view of causes, but through long periods of time. It is enduring, and so adapted to the peculiar necessity of all exertions for Christian reformation—namely, "patient continuance in well-doing." Generosity is the militia that enlist for three months, while benevolence is the regular force that enlist for the whole war.

Separated from generosity, benevolence runs into mischiefs, different from the mischiefs of exclusive generosity, but as real as they are. The two things ought to be married. It is not good for either to be alone. Generosity has its benefits if rightly affianced to benevolence, and benevolence has its benefits if rightly affianced to generosity. Each by itself has peculiar evils. Benevolence separated from generosity is apt to become cold to present suffering, and to come into sympathy with abstract principles more than with real human life; and at last it comes to be a spirit of inhumanity, inexorable for the general good, but indifferent to the particular.

A narrow generosity is the fault of the uneducated; but this perversion of the large spirit of benevolence is the particular vice of the educated, and of professional philanthropists. There are men that reason out the largest schemes of philosophy, that are cosmopolitan in their ideas, and that tell you they desire the welfare of the entire race, who have been so accustomed to generalize all things that at last they have ceased to be sensitive to particulars, and are only sensitive to the generic and abstract. When men come to this state of insensitiveness to every thing but generals, and form comprehensive schemes of benevolence, they are often the hardest-hearted men in the world. Let a man once understand that a certain system of theological teaching, or a certain system of charity is beneficial for the whole race, and let him undertake to establish it all over the world, and through all periods of time, and he will be apt to sacrifice all details, all minor particulars, for the sake of maintaining that great system which is in itself, as he supposes, to secure all the individual benefits that the world needs. So it comes to pass that we see men who are generically benevolent, but who are particularly stingy. If there is a movement for the establishment of a college, that touches their peculiar notions; and they say, "A college has a relation to the interests of generations, and should be encouraged; and they give to that object

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thousands of dollars. But if in the next street there is a suffering family, the father and mother being sick and unable to provide for their children's or their own necessities, and a subscription paper is circulated for their relief, when it comes around to these men they can not attend to the wants of poor people. Their minds are occupied with larger shemes of benevolence!

If these two elements were incompatible with each other and it were impracticable to have large benevolence with generosity, it would be more than doubtful whether comprehensive charity were not comprehensive mischief. But they are reconcilable. They were designed to work together. The true idea excludes neither the one nor the other. It takes generosity to begin with, and benevolence to end with, one leading on to the other, and both working together harmoniously. And, united, they keep each other healthy.

If one's conscience is trained to the duties of generosity it will keep his large and speculative benevolence so near to human life, to humanity, that it will be less airy, less abstract, less definite, less cold. Benevolence, on the other hand, will tend to give depth and breadth to the evanescent spirit of an easily excited generosity, lifting it up from its sensuous condition, and inspiring it with a larger spirit. God meant that they should never go alone. Children should be taught to relieve visible, bodily wants, and they should also be taught to relieve invisible, spiritual wants. They should be taught that moral wants are a thousand times greater than physical wants. When they attempt to apply their benevolence to future ages and generations merely, they should be taught never to neglect present and near duties on account of remote and contingent ones. They should be taught that they must be both generous and benevolent.

Growth and Development.

BY ARCHIBALD MACLAREN, OF THE OXFORD GYMNASIUM.

THE system of bodily training of Greece and Rome had but one aspect, one aim, one object. It was designed to practice the youths of the country in all exercises tending to qualify them for the exigencies of war, as war was then pursued, as campaigns were then made, as weapons were then borne, as battles were then fought. Other object, other aim, other aspect, had it none.

But in those days, as in our own, there must have been men of unsound constitution and imperfect growth, from original weakness of organization, or from illness, ignorance, neglect, accident, and other causes. What system of bodily training was framed for their behoof? None. Here the observation of results was unequal to the requirement. They could reach no higher—they aimed no higher—than the production of a series of athletic games, suitable to the young, the brave, the active, the strong, the swift, and the nobly born.

Our knowledge of physiological science is something more valuable than this. A system of bodily exercise which should give added strength to the strong, increased dexterity to the active, speed to the already fleet of foot, is not what is alone wanted now. It is not to give the benefit of our thoughts and observations and the fruit of our accumulating information to the already highly favored, and to them only, that we aim. On the contrary, it is the crowning evidence of the divine origin of all true knowledge, that in benefiting all within its influence, it benefits most bountifully those whose needs are the greatest.

In our days, as of old, the race is still to the swift and the battle is still to the strong, but the battle of life now is waged with the brain for weapon, and the race is the high pressure competitive efforts of memory and mind. These are the great and all-absorbing struggles of our times, a "struggle for life" as hard, and involving results and transformations as unerring and inevitable, as ever were traced in the origin of species.

It is health, however, rather than strength, that is wanted now—*that* is the great requirement of modern times, with modern men, at non-military occupations. Bodily power, activity, and stamina for the endurance of protracted

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fatigue, are still at this day as much the real want of the soldier, as they were in the days of Xenophon, of Cæsar, of Napoleon. But the purposes and practices of war are not the all in all with us as they were with the Greeks and the Romans; nor are the whole of our able-bodied men under arms, nor the whole of our youths preparing for conscriptive battalions, as were the youths of Germany and France in the last century. The English army, scattered over the whole globe, and encountering the severities of every clime, claims but a fraction of our men; a small portion only of our youths are in uniform; but other occupations, other habits, other demands upon mind and body, advance claims as urgent as ever were pressed upon the soldier in ancient or modern times. From the nursery to the school, from the school to the college or to the world beyond, the brain and nerve strain goes on—continuous, augmenting, intensifying. Scholarships Junior and Senior, Examinations, open Fellowships, speculations, promotions, excitements, stimulations, long hours of work, late hours of rest, jaded frames, weary brains, jarring nerves—all intensified and intensifying—seek in modern times for the antidote to be found alone in physical action. These are the exigencies of the campaign of life for the great bulk of our youths, to be encountered in the schoolroom, in the study, in the court of law, in the hospital, in the asylum, and in the day and night visitations to court and alley and lane; and the hardships encountered in the fields of warfare hit as hard and as suddenly, sap as insidiously, destroy as mercilessly, as the night-march, the scanty ration, the toil, the struggle, or the weapon of a warlike enemy.

Yes, it is *health* rather than *strength* that is the great requirement of modern men at modern occupations; it is not the power to travel great distances, carry great burdens, lift great weights, or overcome great material obstructions; it is simply that condition of body, and that amount of vital capacity, which shall enable each man in his place to pursue his calling, and work on in his working life, with the greatest amount of comfort to himself and usefulness to his fellow-men. How many men, earnest, eager, uncomplaining, are pursuing their avocations with the imminency of a certain breakdown before them—or with pain and weariness, languor and depression; when fair health and full power might have been secured, and the labor that is of love, now performed incompletely and in pain, might have been performed with completeness and in comfort.

Let it not from this be inferred that I consider health and strength as in any manner opposed to each other; on the contrary, they are most intimately allied, and are usually by the same means and in the same manner obtained. Very closely are they connected, but they are not the same, and a man may possess either without the other. For strength may be due to the great force possessed by one system of the body, such as the muscular; or great force in one part of the body, such as the trunk or the limbs; but health is the uniform and regular performance of all the functions of the body, arising from the harmonious action of all its parts—a physical condition implying that all are sound, well-fitting, and well-matched. Young minds do not look far enough into life to see this distinction, or to value it if seen; they fix their longing eyes upon *strength*—upon strength now, and care not for the power to work long, to work well, to work successfully hereafter, which is Health. Therefore it is fortunate that the same means which usually give strength give health also; although the latter may be jeopardized by irregular efforts to obtain the former. Again, it is fortunate that this most desirable of all earthly possessions should spring from the regular and uniform development of the body as a whole, not from the extreme development of any special part. Vast strength of limb may be found united to a comparatively feeble trunk, a massive trunk to dwarfish limbs, great muscular force to delicate lungs. These alike reveal local power and local weakness, and these are not the developments which yield Health.

Let both man and boy, therefore, cultivate strength by every available means, but let it be general not partial strength. The Battle of Life requires for combatant the *whole* man, not a part; and the whole too in as good condition as can be brought into the conflict.

There is no profession, there is no calling or occupation in which men can be engaged, there is no position in life, no state in which a man can be placed, in which a fairly developed frame will not be valuable to him; there are many of these, even the most purely and highly intellectual, in which it is essential to success; essential, simply as a means, material but none the less imperative, to enable the mind to do its work. Year by year, almost day by day, we see men falter and fail in the midst of their labors—men to whom labor is life, and idleness is death—men who with a negation of self and self-comfort even unto martyrdom, devote themselves to great purposes and great works, and before their completion fail: men who run the

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life-race with feet winged with the purest faith and hearts full of the noblest hope, and who, with the goal in view, falter and fail; and all for the want of a little bodily stamina—a little bodily power and bodily capacity for the endurance of fatigue or protracted unrest or anxiety or grief. Strongly has this been ever impressed upon me, more strongly than ever of late years, but never so strongly, never so sadly, never in its every aspect so impressively, as in the death of a late statesman, eminently alike for the height of his intellectual attachments, the nobleness and purity of his aspirations, and the gentleness and almost feminine sweetness of his character. He sank in early manhood, with his great career just begun, his great works but outlined by his hand; to other hands was left their accomplishment, to other hearts their fulfilment, and all for want of a little of that bodily stamina, a little of that material hardihood, a little of that power of enduring fatigue, which he was even as he failed, seeking to extend, through the means of this system of bodily training, to every soldier in the land.

This need of such a preparation for the coming struggle of manhood in these times of high civilization and intellectual advancement being then so apparent, what is the great hindrance to the due training of the body? It is to be found in the too exclusive cultivation and employment of the mind; in the long and continuous hours of physical inaction with extreme mental effort and inordinate mental stimulation, which the requirements and educational demands of the present day often involve; in the overlooking or ignoring of the fact that the body also has urgent and distinct claims to culture and employment.

Are these two then opposed? Is a healthy, energetic, and vigorous frame incompatible with a powerful and vigorous intellect? We know that it is not so. Science and experience alike confirm the fact that the one is in every case an aid to the other. That the intellect can rarely attain, or if it already possesses, can rarely long retain a commanding height when the bodily functions are impaired; that the body itself will be at its best and most worthy condition when its claims are most fully shared by mental occupations, and that the healthy condition of the mind, produced by sufficient and natural employment, will react most favorably upon the body, can never be doubted for a moment; yet we continually find the one warring upon the other. We shall find the reason of this in the overlooking of the laws which govern both mind and body.

The mind acts through a material organ, the brain, upon which it is entirely dependent, and which, in common with the other organs of the body, is subject to a constant decay and constant renewal from the most vital fluid; these processes being accelerated and its strength and vigor consequently augmented in proportion to its activity. But in common with other organs also, if this activity is carried on beyond certain limits, its waste exceeds nutrition, its strength gives place to weakness. The mind then is dependent upon the blood for its material support, and its healthy action is dependent on its receiving an adequate supply of healthy blood. Moreover, the organ of the mind being subject to the same laws as the other organs, requires similar alternations of rest and action to maintain it in its natural state of efficiency; and if either of these states be deficient or in excess, the brain, and consequently the mind, will deteriorate. If therefore the cultivation or exercise of the mind be neglected, it will of necessity be weakened in precisely the same manner as the other organs are weakened by insufficient use, will deteriorate both in strength and vigor and power of enduring fatigue. If, on the other hand, the exercise of the brain be excessive, beyond the point where the nutrition is equal to the waste, it will suffer in the same way to the same extent as the other organs would do.

It would be well if parents would ask themselves at the outset what is their object in the training of their children. "They wish them thoroughly educated," would probably be the response. Then let their first care be that the body shall be healthy and fairly grown. Let them take care that the mind shall receive that amount of culture which will develop and strengthen it, but let them pause at that point where exercise and application are merging into fatigue; so shall it attain its utmost attainable point of strength and vigor, so shall it reach its highest attainable capacity of enduring exertion and effort. Year by year will it be found to increase in these attributes, and in the aftertime, if a call for extra exertion should come, it will not come upon it unprepared. And more than this, the body having received its due share of cultivation also, will itself be gaining year by year, and while contributing to the health of the mind by its own health, will be able to endure successfully its allotted amount of labor, in whatever position of life, under whatever sun, it may toil. Nor let parents imagine that their sons who are destined to what are, chiefly or exclusively, sedentary professions, need not so

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much preparation for their coming life. The clergyman, the physician, the barrister, are often called upon to endure even as much bodily fatigue as the soldier or sailor, and the numerous premature failures among all these classes show how needful such preparation is and how little the necessity has been recognized.

And yet how often do we find parents stimulating by every imaginable method, and by every suggestive expedient, the mental cultivation of their children; given to physical exercise and to physical recreation, and to devote them to study. What is it these parents are seeking? Is it the future welfare of their children, or is it (let us examine it closely) the gratification of their own pride in their children's superior talents and intellectual attainments? It has been said that the pride of parents in their children is, of all kinds of pride, the most excusable; but even our pride in our children may have many phases, and that phase can not be a purely unselfish one which would sacrifice ultimate health and happiness for temporary distinction, praise, and admiration.

The very interest evinced in the premature development of intellectual ability is dangerous to the young, appealing as it does to one of the most powerful stimulants in the youthful mind, the love of praise and notoriety. Boys soon learn to love the excitement which such an artificial mode of life produces, and cease to feel any interest in, or desire for, the active pursuits usually so dear to youth. Others there are thus forced into abnormal advancement, who work on reluctantly to the end, but once emancipated, the distasteful task is for ever abandoned. Which of these is most deserving of our pity, the unnatural young hermit, who in his books alone takes delight, or the too natural little Arab to whom books and book-learning have become a thing of disgust? Most parents have at some time or other felt a pang of alarm at seeing their child turn with carelessness from the food which they knew to be necessary to its well-being. I have already experienced the same feeling at seeing a child turn with indifference or dislike from the sports and pursuits of his companions to creep back to his books; and also as much alarm, mingled with anger—for false and cruel must have been the teaching which caused the dislike—at seeing the healthy and strong child turn with repugnance from his books.*

Earnestly, however, as I desire to advocate the cultivation of the bodily powers, I would guard against its being thought that I would neglect cultivating to their full capacity the mental ones. That would only be erring in another direction, and although a safer one in some important respects, important as regards present comfort and future health, it is still altogether erring; and the right path is broad and open and plain, free alike to all who will look for it with unprejudiced eyes. The brain also requires systematic and ample exercise to develop its attainable powers, and where there exists no unusual weakness, its reasonable culture can scarcely begin too soon or be pursued too steadily. Putting aside the necessity in these days for a highly comprehensive education, a degree of mental culture proportioned with careful hand to the age and mental and physical capacity will be found to act with advantage to the latter, and the relish and zest for bodily exercise, which supplies the most valuable of all incentives, will be increased by it. The giving of a large part of the day to exclusive bodily occupation is, for those who are to take a place in the educated world, an equal error—a rejecting of the advantages of civilization. The body makes no such exacting demands. Let it not therefore be inferred that I would undervalue the purely mental work of schools, nor let it be for a moment imagined that I would advocate a less active, a less energetic, a less earnest pursuit of it. On the contrary, it is because I would sustain in their most ardent efforts its youthful votaries, and enable them in the aftertime to reap to the full the fruit of their labors, that I plead for a more discriminating indulgence in occupations purely mental and sedentary at this period of life. For there is no error more profound, or productive of more evil, than that which views the bodily and mental powers as antithetical and opposed, and which imagines that the culture of the one must be made at the expense of the other. The truth is precisely the reverse of this. In the acquirement of bodily health mental occupation is a helpful, indeed a necessary agent. And so impressively has this been proved to me, that in cases where the acquisition of bodily health and strength was the all-in-all desired by the parent, and the one thing longed for by the child (and in some cases almost despaired of by myself), I have been careful to allot and mark out a proportion of mental with bodily occupation.

* "My boy works seven hours a day regularly, sometimes eight," said a lady to me composedly. The boy had just turned his eighth year. Four languages besides his own, Latin and Greek, French and German, with History, Geography, Arithmetic, and Instrumental Music! Were his headaches real or sham I wonder?

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Baths for the Babies.*

BY MRS. R. B. GLEASON, M. D.

THE impression that the water treatment can not be adapted to the wants of the weak and wee ones is incorrect.

Cold packs, plunges, and douches were a peculiar feature of the Priessnitz method, hence the name, cold water cure is applied, when water hot or tepid is largely used. Water can be varied in temperature, and its use repeated, so as to soothe the slightest fever and relieve chills, creeping or congestive, whatever the age of the sufferer.

Let an infant's first bath be about 98°, and from week to week gradually reduce it, as he will enjoy and get warm after. We say enjoy, for babies ought not to cry, as a rule, when they are bathed; and seldom will, if it is done with due discretion. Very few like being washed all over with a wet cloth, but a dip in a bath, or even remaining in one a minute, and being rubbed, is usually enjoyed, unless the little one has been scared by water too cold or too hot for comfort. After the bath, lay the baby in a soft towel and wipe it dry. Then rub gently with the hand, and let it lie before the fire, on the lap, with limbs unfettered, and get exercise and a good reaction. Or, if the room is too cool, or the baby inclined to be blue, wrap it in a woolen blanket for half an hour before dressing. One bath a day is sufficient. If the little one is delicate, two or three times a week is better for the first few weeks. Let this be done during the fore-part of the day. If the child is restless at night, or has an eruption on the skin, then a second bath may be given at evening. During the first year they will come to enjoy baths at 70° or 80°, according to their reactive power. I very well remember setting down my baby's bath tub of cold water in mid winter, while I went for hot water to add. When I came back my little boy had crept to the tub, climbed in and sat down, with a slight shiver and a look of surprise, but no outcry.

When a child is sick, the temperature of baths should be modified to meet the wants; remembering that if there is fever the surface is more sensitive to cold, hence baths or bandages should be warm, so as not to shock the little patient, which does harm, and makes them dread what they might enjoy. We have had the care of many sick children, whose parents feared we would have great difficulty in giving them water treatment, because they cried when they were washed; but we very seldom have trouble, for after the first few they come to take baths as a pleasure.

We took a little girl from the Orphan's Home, who was very sick with cough and chronic diarrhea. Every thing being strange to her in the bath rooms, she screamed as soon as she entered, and went down into her warm bath as if she was descending into a fiery furnace or a freezing flood. But finding the water comfortable she grew calm, and ever afterward longed for her bath as the great treat of the day. When her daily fever came on she would say, "Me feel sick, and me want bath;" and when it was over, "Me had nice bath, me feel better now."

Children who have grown up under water treatment will ask, when sick, for baths and bandages; their own sensations often being the best guide as to what they need.

A child in a bath is always a sweet picture, and especially so when the bright face says, as well as the words, "I feel better now." By way of contrast, see the subject for pills and castor oil held in strong arms while the mother tries to hold the nose together and the tongue down, while she gives the pill, which, perhaps, after all, sticks to the teeth, and the oil pours out rather than in.

A gentleman who was partial to the early Thompsonian system, of heavy doses and many varieties of medicine, said when his child was sick he was obliged to call another doctor, because his child's stomach could not hold all the remedies prescribed.

From slight observation, we judge that it is a difficult matter to get any except Homœopathic remedies into these little stomachs. Hence we know how glad mothers are of any remedy that sick children will enjoy. Baths judiciously administered are pleasant to take and beneficial in their effects.

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* This article is an extract from the new book, "Parlor Talks to Ladies," now in press by WOOD & HOLBROOK. The work will be ready in March. See announcement elsewhere.

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Industrial Education.

BY MRS. HORACE MANN.

THE public mind of Boston and many other places where the Massachusetts Common School System has been in operation on a large scale, giving an opportunity for all classes of the community to receive almost any amount of literary instruction, up to the point of preparation for college in the case of boys, and high-school instruction for girls, has been very actively at work of late to account for the want of *true education* that is apparent, especially in the last generation. Education is a great word, and the mere reception of instruction is the very smallest part of it. There are some gifted minds that need only an opportunity to get at books, methods, and ideas, as one might find a silver mine, whose value needs no explanation—and they straitway go on and educate themselves. We will leave such to their manifest destiny. Genius knows how to appropriate all the treasures it finds, but genius is exceptional, and we will set its claims aside as irrelevant to our present criticisms upon the education of the people, which is the object of the common schools. The fathers who built the school-house and the meeting-house side by side, when they first came into the wilderness in New England, and who soon added the college to the school-house, on the same principle and with the same purpose, namely, that every member of the community should have an opportunity for education, and that those who were to take part in the government together should be brought up in sympathy, saw with a prophetic eye that only thus could the republic they wished to found continue to be a republic in the true and highest sense. The sentiment at the moment was that rich and poor should be educated together. I should say the refined and the rude, for all were poor and had to toil for their subsistence. Soon the accession of others not actuated by so pure a principle, and the prejudices of caste brought from the Old World, marred this democratic idea. The refined did not like to expose their children to contact with the rude, however virtuous they might be, and private education and select schools increased, till the public schools became little more than charity schools, and then teachers were ill-paid, schools were kept in wretched, barn-like buildings, and the whole system deteriorated.

A great effort was at last made to restore the public school to its original intent, and under able leadership the movement was highly successful. School-houses became palaces, teachers' salaries were increased, teachers' seminaries instituted; it became respectable, and in many places even genteel, to attend the public school. Great efforts were made to include the children of the foreigners who crowd to our country in this beneficent movement, which could be done if the schools were made unsectarian. It was found that the American-born Irish were as bright as American-born English, and, indeed, alarm was soon taken lest there should be no *lower class*, and then what would the higher classes do for servants? Who would do the work of the world? The true democratic idea that labor is honorable and that its practice need not be looked upon as disgraceful *per se*, even by the refined, had not taken very deep root, and chiefly because it had not been made intellectual. It was opposed also by the selfishness, egotism, and false pride of men, fostered as they had been in the higher classes of the world's society, in communities where slavery and serfdom had existed. The first evidence of this deep-seated alarm was the suppression of a fine high school in Boston, at which the children of the poorer classes, some of the Irish being included, had shown as brilliant scholarship, under the instruction of a talented and enthusiastic teacher, as the children of the first families in point of rank and fortune.

But an impulse had been given which could no more be stayed than the rush of waters over a broken dam. An idea had been born, a truth had been seen. This idea, this truth was that every child of God has an inalienable right to the highest education he can attain. It was one of those indestructible and self-evident truths that once seen can never be ignored. All the arguments that can be brought against it have their foundation on the low plane of selfishness. In despotic countries even, it has been impossible to stay the tide. The present King of Prussia, under the lead of his Catholic mother, has seen that a despotic throne can not long stand upon the knowledge of the people, and he has made a fruitless effort to check that progress of education in his own land, which, if he could but see it, has at last made Germany a unit. It was the intelligence that wielded his armies which gave them their success, and Austria herself has seen it, and roused herself from

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her long slumber and made a gigantic stride toward progress. The reactionary movement has now been opposed by the teachers forming themselves into a body against it. How still more impossible is it to stem such a current in a country governed by free institutions!

Let us do nothing to check progress; as some public reasoners are now trying to do. Let us not undervalue this love of knowledge that has been awakened by opportunity, this consciousness of power that has been imparted to what was once a brute mass—a consciousness that makes every man an individual, as far as he truly has it.

But an evil has arisen, side by side with the new institution of the *school for the people*. Up to this time brain-work has been considered more honorable than hand-work, therefore those who cultivate their intellect trust to live by their intellects, if they must work at all, and turn aside from labor in all its forms. The graduates from our schools who have still farther opportunities of study and can go into the walks of science and philosophy, may well do so, for there is ample room for the best brain-work they can produce; there are still benighted lands where this idea of cultivating the faculties of all men has not yet dawned; there are kingdoms of nature that need more explorers than all human institutions can yet furnish.

But the others? What are those to do who have no farther opportunities? those who come from the ranks of ignorance and manual labor, and must fall back into those ranks? What must become also of the ungifted who return to the ranks of the refined and intelligent with delicate tastes awakened, refined sentiments stimulated, new wants created even by what they have tasted of the pleasures of knowledge? Must they not labor to a greater or less extent? for the inheritance of wealth is very small in any country, and only the gifted can find employment in subduing and controlling the powers of nature that lie around them. What have they learned in the schools that can help them? Even many of the gifted have no means of devoting themselves to the intellectual labor they are well fitted to perform, and being wholly uneducated in any industrial pursuit, prove a burden on society as well as upon themselves. It is true they are not so hopelessly burdensome to themselves or to others as the former class, as they may yet find a sphere of action at home or abroad. It is for the former class, neither fit for intellectual work nor any other that society is especially anxious; for these, the girls especially, rapidly deteriorate in a moral point of view and become the pests of society. To return to their uncultivated homes and resume uncongenial labors, is not to be thought of by those who have been on an equality at school with children of the more favored classes of society. The latter now turn to them a cold shoulder, for their families do not move in the same sphere. Is it strange they should look ashamed at manual labors that these companions do not share? that they even despise the needle which they have not been taught to use, and which they see is not wielded except in a little fancy work by their more favored school-fellows? Is it strange that they crave the same amusements, and wish for the same fine clothing as they? It has never been inculcated upon them at school that labor is honorable. They have never been instructed there to use their hands in any useful way. The competition has been for marks and places earned by lessons, but the connection between these lessons and the uses of life have never been pointed out. In fact, the saddest degradation awaits them, and the evil has become such a crying one, that the women of the land are taking measures to meet and to stem it. They see that the difficulty anticipated by the alarmists who broke up the successful Boston high school thirty years ago, is the least of the evils that have come out of this partial education of the common schools, this mere book-learning without practical application. It is true that the native American people have for the most part long since dropped out of household service, leaving it to foreigners, who come into it without the first idea of thrifty or skilled housekeeping. To restore this profession, as we may call it, to the respectable place it had in early times among us, and which it deserves in the estimation of society, suggests itself as the first remedy, but how is it to be done?

A benevolent lady of Boston, who fortunately has wealth at her command, and can therefore act independently, and whom this very wealth stimulated to look around her for opportunities of using it for the benefit of others less favored, began an individual effort by placing a superior woman, at her own expense, in one of the public schools, in order to introduce into it the first most necessary branch of industrial training—sewing—which has fallen into disuse even in the primary schools. Her wish was to prove the practicability and utility of the movement by one well-ordered experiment. It was eminently successful. The committee granted one hour in the week only, but the excellent woman who undertook it invited the pupils to come to her own home in their leisure hours to profit the

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more by her instructions. During the years of the war, the children of that one school made more than 1500 garments for the soldiers. This success led to still farther efforts. Many children were found in the school who had no acknowledged parentage—children who had been placed with nurses and were after a time abandoned and never reclaimed. Often they were delicate in constitution and nervously susceptible. Probably they never had even the same fostering care as the children of the nurses to whom they had been intrusted, and no family life was open to them. As they grew older, their fate was left in their own hands, and they were subject to become the prey of the spoiler. In reference to this special class, the lady in question saw that special action was needed. She placed the able woman she had employed, and who had called her attention to this want, in a house which she bought and furnished for the purpose. The teacher who had been in the habit of inviting the children of the school to her own home, had boarded with friends who were kind, sympathizing and accommodating, but it became a great tax in a private house, so continually did the numbers of these little visitors increase. A special house for the purpose had therefore grown to be a demand, and this, too, has been a successful experiment. Several orphans were placed under Mrs. Gilson's care as residents, and these, with the assistance of those invited from the school in their leisure hours, have been taught to do the work of the house, to complete its furnishing by their handiwork in making quilts, comforters, and rag mats, tidies, and even picture frames; and when sufficiently trained, the inmates, as well as many others, have been gladly received into families, to which they have proved a great blessing, and where they have commanded high wages by their manner of performing their duties and by their care of children. A procession of such girls has passed through that abode of peace and love, which they are invited ever after to consider as their home in days and hours of recreation. The children of the poor have been welcomed to be taught the care of the sick at home, and are allowed to bring their materials and learn to make them into nutritious drinks and soups, and to ask information in difficult circumstances. The principle that has always been inculcated is, that the occupation of the household service is a high instead of a low one; that upon the way it is administered depends in a great measure the happiness of families and the good of children, so fearfully sacrificed by the ordinary run of domestics; and that a faithful discharge of such duties insures them the friendship and esteem of those who know that no money can pay for such heart service. If any children are found that have special talents for any occupations, money, here happily at command, is not spared to insure them thorough special instruction. In this way, artistic talent has been fostered. In all the ordinary instruction in sewing, the making of quilts and comforters, the ornamenting of aprons and sacques, the knitting and crocheting, taste in the use of colors and forms of beauty is carefully cultivated, at once elevating the occupation to a fine art. The effect of all these influences upon manners is a gentle refinement, which strikes the visitor very powerfully. The children are also encouraged to give away what they make to those who are needy, and at this house have been made all the shirts for the Reform School, lately established at West Newton.

This is an illustration of what can be done under the most favorable circumstances, and such houses can be multiplied by combining the means of several persons, for one such house in the city of Boston—how inadequate to the crying want of the times! I could tell you of a still more wonderful result of efforts made under the most unfavorable circumstances, by an individual whose resources were drawn out of her own heart. But I must reserve that for another time. What I have already described will serve as an argument in support of the point I now wish to dwell upon, which is, that our public system could be so improved as to strike at the very root of the evils now so palpable to those who look deeper than the surface, and have come to the conclusion that mere charity, however profuse, can not reach the difficulty. It can only be reached by systematic, universal, industrial education in the very schools in question. Every individual must be taught to provide for himself by the harmonious cultivation of all the powers.

Mr. Wm. T. Atkinson, of the Boston Institute of Technology, who has written so ably upon the need of scientific culture, not in opposition to, but side by side with classic culture, gave some account, on a late public occasion, of the *half-time* schools that grew out of a necessity in England. It was impossible for the poor to let their children pass all their days at school. They needed their assistance, and the consequence was such irregularity of attendance that the instruction was of little use. A plan was formed of having them spend a few hours in school instead of all day. This insured attendance, and it was found, moreover, that such

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pupils made more rapid progress in intellectual education than those who actually went all day. This is leading to radical changes in the school system for all classes, not only in England but in Germany, where the same thing was tried with the same results, and where the whole public school system is undergoing modification in consequence. It remains for us to do the same. It is plain that one-half the nature and powers of children have been uncultivated by our system of lessoning, with marks and prizes as the goal instead of excellence, and that when the school-life is ended, the pupils are not only incapable of practical action, but partially developed, even intellectually, from want of harmonious culture. If the art of housekeeping, which in some aspects is a divine act, can not be taught in the school, a thousand handicrafts can be, beside plain sewing; the artistic powers can be brought out by drawing and modeling, and by tasteful fancy work. It has been ordained of late in Massachusetts, that there shall be free drawing taught in every town that has a certain number of inhabitants, and this is a good beginning, but the plan of industrial training to be really efficient and to reach all who need it, must be thought out upon a large scale and applied to pupils of every class. We hear as loud complaints from the idle and frivolous girls of well-to-do families of having *nothing to do*, as from any less-favored class. When labor becomes skilled labor, it becomes ennobling and attractive, because it taxes the intellectual as well as the physical forces. Almost all labor may become artistic in its character. From the carpenter grows the architect, if science and taste are applied to the occupations. Some of our best sculptors began life as stone-cutters, and knew not the cunning that was in their hands, till they held the chisel and found they could make their imaginations create beauty out of the hard rock. The most gifted artificers of porcelain were at first rude potters of clay. There is a story of one who wandered aimlessly about in his youth, unable to fix his mind upon any occupation, till he saw some beautiful samples of porcelain ware and learned that they were fabricated out of clay. He never rested till he had learned the art, in which he became distinguished. Some of our native landscape painters, who have attained excellence, were men before they discovered their own talent. I have in my mind one especially who had a natural eye for color, but he had never had an opportunity to learn to draw, and could only do it ever after with color. If he had been skillully trained, like Allston, one knows not to what eminence he might have attained. So of Harding and Healy, both distinguished in their profession. Many a young man and woman might find themselves able draughtsmen, an occupation which commands large compensation, if in childhood the opportunity had been offered of learning to draw. Our schools of design take adult pupils, but all the practice of early years is lost by not having daily instruction. So all the varieties of needle-work, embroidery, lace work, tapestry work in crewels and flosses, knitting, netting, crocheting, have been invented in the course of time by those who have been taught the first principles of these arts. The savages of the Pacific Islands, wholly uncultured as they are, show much native talent in weaving symmetrical patterns and borders for the mats they braid out of the leaves of trees cut into strips, and dyed in various colors with the juices of fruits. One feels sure, in looking at these complicated patterns, which require much calculation, that the talent that wove them might have made their possessors distinguished mathematicians, if the opportunity had ever been given them. Many of them have gone so far, even in their savage state, as to construct machinery to save themselves labor in manufacturing products out of these leaves of trees and the fibers of other plants, usually braided with the fingers and sewed with bone needles. Doubtless the artistic interest of accomplishing these works is as great in proportion to the success, as the enjoyment of Michel Angelo in his creations. Beautify labor, and it becomes artistic. Let a religious or a benevolent sentiment inspire it, and it becomes the highest art. Every common utensil of life was an article of beauty in form and ornamentation among the Greeks, in whom the spirit of art seemed to be a native growth, but was in the highest expression the product of talent and culture combined. The principles of agriculture applied to flowers becomes horticulture and landscape gardening. The hanging gardens of Eastern palaces were prodigies of art, and yet how simple the primitive forms! natural growths, combined by taste and science. The intense activity of our people will employ itself in something. It will run riot if not cultivated, and degenerate into the coarsest form of personal enjoyment—love of dress and display, unembellished by taste or sentiment. Once cultivate the powers to their highest uses, and labor will become sanctified, as it was with the ancient guilds that wrought the wonders of architecture in the form of temples of worship, and all will labor for the good of each, if under the guidance of elevated minds.

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OUR STUDIES IN PHYSIOLOGY.

FIRST STUDY.

THE body of a living man performs a great diversity of actions, some of which are quite obvious; others require more or less careful observation, and yet others can be detected only by the employment of the most delicate appliances of science.

Thus, some parts of the body of a living man is plainly always in motion. Even in sleep, when the limbs, head, and eyelids may be still, the incessant rise and fall of the chest continue to remind us that we are viewing slumber and not death.

But a little more careful observation is needed to detect the motion of the heart; or the pulsation of the arteries; or the changes in the size of the pupil of the eye with varying light; or to ascertain that the air which is breathed out of the body is hotter and damper than the air which is taken in by breathing.

And lastly, when we try to ascertain what happens in the eye when that organ is adjusted to different distances; or what in a nerve when it is excited; or of what materials flesh and blood are made; or in virtue of what mechanism it is that a sudden pain makes one start—we have to call into operation all the methods of inductive and deductive logic; all the resources of physics and chemistry, and all the delacacies of the art of experiment.

HUMAN PHYSIOLOGY.

2. The sum of the facts and generalizations at which we arrive by these various modes of inquiry, be they simple or be they refined, concerning the actions of the body and the manner in which those actions are brought about, constitutes the science of Human Physiology An elementary outline of this science, and of so much anatomy as is incidentally necessary, is the subject of the following lessons; of which I shall devote the present to an account of so much of the structure and such of the actions (or, as they are technically called, "functions") of the body, as can be ascertained by easy observation, or might be so ascertained if the bodies of men were as easily procured, examined, and subjected to experiment as those of animals.

A MAN IN A CHAMBER OF ICE.

3. Suppose a chamber with walls of ice, through which a current of pure ice-cold air passes, the walls of the chamber will of course remain unmelted.

Now, having weighed a healthy living man with great care, let him walk up and down the chamber for an hour. In doing this he will obviously exercise a great amount of mechanical force; as much at least as would be required to lift his weight as high and as often as he has raised himself at every step. But, in addition, a certain quantity of the ice will be melted or converted into water, showing that the man has given off heat in abundance. Furthermore, if the air which enters the chamber be made to pass through lime-water it will cause no cloudy white precipitate of carbonate of lime, because the quantity of carbonic acid in ordinary air is so small as to be inappreciable in this way. But if the air which passes out is made to take the same course the lime-water will soon become milky, from the precipitation of carbonate of lime, showing the presence of carbonic acid, which, like the heat, is given off by the man.

Again, even if the air be quite dry as it enters the chamber, that which is breathed out of the man and that which is given off from his skin will exhibit clouds of vapor; which vapor, therefore, is derived from the body.

After the expiration of the hour during which the experiment has lasted, let the man be released and weighed once more. He will be found to have lost weight.

Thus a living, active man constantly exerts *mechanical force*, gives off *heat*, evolves *carbonic acid* and *water*, and undergoes a *loss of substance*.

HUNGER AND THIRST—FOOD.

4. Plainly, this state of things could not continue for an unlimited period, or the man would dwindle to nothing. But long before the effects of this gradual diminution of substance become apparent to a bystander, they are felt by the subject of the experiment, in the form of the two imperious sensations called hunger and thirst. To still these cravings, to restore the weight of the body to its former amount, to enable it to continue giving out heat, water and carbonic acid, at the same rate for an indefinite period, it is absolutely necessary that the body should be supplied with each of three things,

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and with three only. These are, firstly, fresh air; secondly, drink—consisting of water in ome shape or other, however much it may be adulterated; thirdly, food. That compound known to chemists as *protein*, and which contains carbon, hydrogen, oxygen, and nitrogen, must form a part of this food if it is to sustain life indefinitely; and fatty, starchy, or saccharine matters ought to be contained in the food, if it is to sustain life conveniently.

5. A certain proportion of the matter taken in as food either can not be, or at any rate is not used; and leaves the body as *excrementitious matter*, in the condition in which it entered it, without ever being incorporated with its substance. But under healthy conditions, and when only so much food as is necessary is taken, no important proportion of either protein matter, or fat, or starchy or saccharine food, as such, passes out of the body by this or any other channel. Almost every thing that leaves the body, in fact, does so either in the form of *water*, or of *carbonic acid*, or of a third substance called *urea*, or of certain *saline* compounds.

Chemists have determined that these products which are thrown out of the body and are called *excretions*, contain, if taken altogether, far more oxygen than the food and water taken into the body. Now, the only possible source whence the body can obtain oxygen, except from food and water, is the air which surrounds it.* And careful investigation of the air which leaves the chamber in the imaginary experiment described above would show, not only that it has gained carbonic acid *from* the man, but that it has lost *oxygen* in equal, or rather greater amount *to* him.

6. Thus, if a man is neither gaining nor losing weight, the sum of the weights of all the substances above enumerated which leave the body ought to be exactly equal to the weight of the food and water which enter it, together with that of the oxygen which it absorbs from the air. And this is proved to be the case.

WASTE AND SUPPLY.

Hence it follows that a man in health, and "neither gaining nor losing flesh," is *incessantly* oxidating and wasting away, and *periodically* making good the loss. So that if he could be confined in the scale-pan of a delicate spring balance, like that used for weighing letters, in his average condition, the scale-pan would descend at every meal and ascend in the intervals, oscillating to equal distances on each side of the average position, which would never be maintained for longer than a few minutes. There is, therefore, no such thing as a stationary condition of the weight of the body, and what we call such is simply a condition of variation within narrow limits—a condition in which the gains and losses of the numerous daily transactions of the economy balance one another.

7. Suppose this diurnally-balanced physiological state to be reached, it can be maintained only so long as the quantity of the mechanical work done, and of heat, or of other force, evolved, remains absolutely unchanged.

Let such a physiologically-balanced man lift a heavy body from the ground, and the loss of weight which he would have undergone without that exertion will be immediately increased by a definite amount, which can not be made good unless a proportionate amount of extra food be supplied to him. Let the temperature of the air fall, and the same result will occur, if his body remains as warm as before.

On the other hand, diminish his exertion and lower his production of heat, and either he will gain weight, or some of his food will remain unused.

Thus, in a properly nourished man, a stream of food is constantly entering the body, in the shape of complex compounds, containing comparatively little oxygen; as constantly, the elements of the food (whether before or after they have formed part of the living substance) are leaving the body, combined with more oxygen. And the incessant breaking down and oxidation of the complex compounds which enter the body are definitely proportioned to the amount of force the body exerts, whether in the shape of heat or otherwise; just in the same way as the amount of work to be got out of a steam engine, and the amount of heat it and its furnace give off, bear a strict proportion to its consumption of fuel.

THE ERECT POSITION OF MAN.

The erect position, which we assume so easily, and without thinking about it, is the resultof the combined and accurately proportioned action of a vast number of muscles. What is it that makes them work together in this way?

8. Let any person in the erect position receive a violent blow on the head, and you know what occurs. On the instant he drops prostrate, in a heap, with his limbs relaxed and powerless. What has happened to him? The

*Fresh country air contains in every 100 parts nearly 21 of oxygen and 79 of nitrogen gas, together with a small fraction of a part of carbonic acid, and a variable proportion of watery vapor and ammonia.

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blow may have been so inflicted as not to touch a single muscle of the body; it may not cause the loss of a drop of blood; and, indeed, if the "concussion," as it is called, has not been too severe, the sufferer, after a few moments of unconsciousness, will come to himself and be as well as ever again. Clearly, therefore, no permanent injury has been done to any part of the body, least of all to the muscles, but an influence has been exerted upon a something which governs the muscles. And this influence may be the effect of very subtle causes. A strong mental emotion, and even a very bad smell, will, in some people, produce the same effect as a blow.

MIND NOT THE GOVERNOR.

These observations might lead to the conclusion that it is the mind which directly governs the muscles, but a little further inquiry will show that such is not the case. For people have been so stabbed, or shot in the back, as to cut the spinal cord, without any considerable injury to other parts; and then they have lost the power of standing upright as much as before, though their minds may have remained perfectly clear. And not only have they lost the power of standing upright under these circumstances, but they no longer retain any power of either feeling what is going on in their legs, or, by an act of their volition, causing motion in them.

9. And yet, though the mind is thus cut off from the lower limbs, a controlling and governing power over them still remains in the body. For, if the soles of the disabled feet be tickled, though no sensation will reach the body the legs will be jerked up, just as would be the case in an uninjured person. Again, if a series of galvanic shocks be sent along the spinal cord, the legs will perform movements even more powerful than those which the will could produce in an uninjured person. And, finally, if the injury is of such a nature that the cord is crushed, or profoundly disorganized, all these phenomena cease; tickling the soles, or sending galvanic shocks along the spine will produce no effect upon the legs.

THE BRAIN.

By examinations of this kind, carried still further, we arrive at the remarkable result that the brain is the seat of all sensation and mental action, and the primary source of all muscular contraction; while the spinal cord is capable of receiving an impression from the exterior, and converting it not only into a simple muscular contraction, but into a combination of such actions.

Thus, in general terms, we may say of the cerebro-spinal nervous centers that they have the power, when they receive certain impressions from without, of giving rise to simple, or combined, muscular contractions.

10. But you will further note that these impressions from without are of very different characters. Any part of the surface of the body may be so affected as to give rise to the sensations of contact, or of heat or cold; and any or every substance is able, under certain circumstances, to produce these sensations. But only very few and comparatively small portions of the bodily framework are competent to be affected in such a manner as to cause the sensations of taste or of smell, of sight or of hearing; and only a few substances, or particular kinds of vibrations are able so to affect those regions. These very limited parts of the body, which puts us in relation with particular kinds of substances, of forms, of force, are what are termed *sensory organs*. There are two such organs for sight, two for hearing, two for smell, and one, or more strictly speaking, two for taste.

11. And now that we have taken this brief view of the structure of the body, of the organs which support it, of the organs which move it, and of the organs which put it in relation with the surrounding world, or, in other words, enable it to move in harmony with influences from without, we must consider the means by which all this wonderful apparatus is kept in working order.

All work, as we have seen, implies waste. The work of the nervous system, and that of the muscles, therefore, implies consumption either of their own substance or of something else. And as the organism can make nothing, it must possess the means of obtaining from without that which it wants, and of throwing off from itself that which it wastes; and we have seen that, in the gross, it does these things. The body feeds, and it excretes. But we must now pass from the broad fact to the mechanism by which the fact is brought about. The organs which convert food into nutriment are the organs of *alimentation;* those which distribute nutriment all over the body are organs of *circulation;* those which get rid of the waste products are organs of *excretion*.

THE BLOOD.

12. Now the fluid containing the dissolved or suspended nutritive matters, which are the result of the process of digestion, traverses the

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very thin layer of soft and permeable tissue which separates the cavity of the alimentary canal from the cavities of the innumerable capillary vessels which lie in the walls of that canal, and so enters the blood, with which those capillaries are filled. Whirled away by the torrent of the circulation, the blood, thus charged with nutritive matter, enters the heart, and is thence propelled into the organs of the body. To these organs it supplies the nutriment with which it is charged; from them it takes their waste products, and, finally, returns by the veins loaded with useless and injurious excretions, which sooner or later takes the form of water, carbonic acid, and urea.

EXCRETORY MATTER.

13. These excretionary matters are separated from the blood by the *excretory organs*, of which there are three—the *skin*, the *lungs*, and *kidneys*.

Different as these organs may be in appearance, they are constructed upon one and the same principle. Each, in ultimate analysis, consists of a very thin sheet of tissue, like so much delicate blotting-paper, the one face of which is free, or lines a cavity in communication with the exterior of the body, while the other is in contact with the blood which has to be purified.

The excreted matters are, as it were, strained from the blood through this delicate layer of filtering tissue, and on to its free surface, whence they make their escape.

Every one of these organs eliminates the same products, viz., water, carbonic acid, and urea, or some nitrogenous compound of like import. But they eliminate them in various proportions —the skin giving off much water, little carbonic acid, and still less urea; the lungs giving off much water, much carbonic acid, and a minimum of urea, or ammonia (which is one of the products of the decomposition of urea); the kidneys separating much water, much urea, and a minimum of carbonic acid.

* * *. * * *

14. The modes in which death is brought about appear at first sight to be extremely varied. We speak of natural death by old age, or by some of the endless forms of disease; of violent death by starvation, or by the innumerable varieties of injury, or poison. But, in reality, the immediate cause of death is always the stoppage of the cerebro-spinal nervous center, the lungs, or the heart. Thus, a man may be instantly killed by such an injury to a part of the brain which is called the *medulla oblongata*, as may be produced by hanging or breaking the neck.

In ultimate analysis, however, life has but two legs to stand upon, the lungs and the heart, for death through the brain is always the effect of the secondary action of the injury to that organ upon the lungs or the heart. The functions of the brain cease when either respiration or circulation are at an end. But if circulation and respiration are kept up artificially, the brain may be removed without causing death. On the other hand, if the blood be not aërated, its circulation by the heart can not preserve life; and, if the circulation be at an end, more aëration of the blood in the lungs is equally ineffectual for the prevention of death.

15. With the cessation of life, the every-day forces of the inorganic world no longer remain the servants of the bodily frame, as they were during life, but become its masters. Oxygen, the sweeper of the living organism, becomes the lord of the dead body. Atom, by atom, the complex molecules of the tissues are taken to pieces and reduced to simpler and more oxidated substances, until the soft parts are dissipated chiefly in the form of carbonic acid, ammonia, water, and soluble salts, and the bones and teeth alone remain. But not even these dense and earthy structures are competent to offer a permanent resistance to water and air. Sooner or later the animal basis which holds together the earthy salts decomposes and dissolves—the solid structures become friable, and break down into powder. Finally, they dissolve and are diffused among the waters of the surface of the globe, just as the gaseous products of decomposition are dissipated through its atmosphere.

The sun's rays acting through the vegetable world, build up some of the wandering molecules of carbonic acid, of water, of ammonia, and of salts, into the fabric of plants. The plants are devoured by animals, animals devour one another, man devours both plants and other animals; and hence it is very possible that atoms which once formed an integral part of the brain of Julius Cæsar may now enter into the composition of Cæsar the negro in Alabama, and of Cæsar the house-dog in an English homestead.

And thus there is sober truth in the words which Shakspeare puts into the mouth of Hamlet:

"Imperial Cæsar, dead and turned to clay,
Might stop a hole to keep the cold away;
Oh that that earth, which kept the world in awe,
Should patch a wall, t' expel the winter's flaw!"

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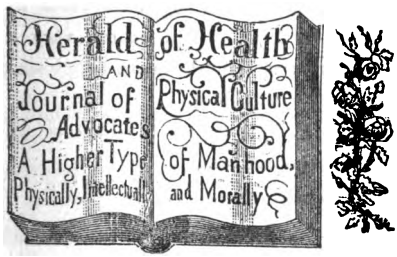
EDITORIAL DEPARTMENT.



NEW YORK, JANUARY, 1870.

WATER.

"To the days of the aged it addeth length;
To the might of the strong it addeth strength;
It freshens the heart, it brightens the sight;
'Tis like quaffing a goblet of morning light."

☞ THE PUBLISHERS *do not hold themselves as indorsing every article which may appear in* THE HERALD. *They will allow the largest liberty of expression, believing that by so doing this magazine will prove to be more useful and acceptable to its patrons.*

☞ *Exchanges are at liberty to copy from this magazine by giving due credit to* THE HERALD OF HEALTH AND JOURNAL OF PHYSICAL CULTURE.

TOPICS OF THE MONTH.

BY M. L. HOLBROOK, M. D., EDITOR.

COMPLIMENTS OF THE SEASON.—On the first day of each dawning year, it is the custom of nearly all civilized men and women throughout the world, to address each other in salutations of smiling cheer and of good wishing. This is a beautiful custom. The earth would be a sad old home to us without such recurring occasions for gleeful and kindly communications. Yet beautiful as this glad custom is, it would be still more beautiful if the words in which its import is conveyed were not so often contradicted by the acts with which it is accompanied. A young gentleman enters the elegant drawing-room to make his New Year's call. The ladies, with ruby lips and bright eyes, smile their greeting; and wishing a "Happy New Year" they proffer to him the wine glass, and give their enchanting sanction to a habit which will almost certainly make the new year a most unhappy one to the object of their hospitality.

This fashionable way of making the new year happy reminds us, as Mr. Lincoln used to say, of a little story. An order was sent not long since to a Chicago bookseller, which, among other things, called for "6 Primitive Christianity." The order was sent back with the response penciled opposite that item, and not at all in jest: "No Primitive Christianity to be found in Chicago." So when we think of all the beautiful dames and damsels who, on this festive season, will wish young men a "Happy New Year," and then stimulate a fatal tendency to a ruinous and dreadful passion, we are inclined to say, "No Happy New Year to be found in this way of wishing it!" This part of our editorial compliments, therefore, the many ladies whom we number among our readers, will please to consider as meant especially for themselves. Oh, fair and gentle friends, do not in any mistaken obedience to fashion and superficial custom, permit yourselves to become allies of the Tempter!

Turn we, now, from addressing our New Year's salutation to the ladies, to the utterance of a single remark to those of our many readers who are young men. Brothers! if you have heretofore celebrated New Year's Day by assenting to the fashionable practice of sipping wine when it is offered to you on your calls, let us suggest the question whether you can afford to run the risk of beginning the year by toying with that syren habit? We remember a cartoon in Punch representing an English railway train as having just stopped at a station, and an old gentleman looking out of the window of his compartment in one of the cars, the door of which was fastened. A porter

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stands by the door with his hand on the latch. The following conversation ensues:

Old Gent (waking up excitedly)—"Hi, porter! where does this train stop next?"

Porter—"Don't stop any more, sir!"

Old Gent (excitedly)—"Not stop any more! Here, hi! Open the door! I'll get out *here!*"

Young gentleman, we commend to you the valiant resolution of the Old Gent on that occasion. In permitting yourselves to get aristocratically drunk on New Year's Day, you are gradually becoming a passenger on a train which, like that one in Punch, "don't stop any more." With reference to riding any further on this dangerous train, we earnestly advise you to say, at the opening of this newly-given year, "Here, hi! Open the door! I'll get out here!"

It may be that these words will meet the eyes of some young men who will be led by what we are saying to reconsider the whole subject of New Year's etiquette, and to act upon our suggestion. We do not flatter ourself that all will do so, however. We know the force of fashion. Many young men will reply to what we have said above, that "to refuse wine would not be genteel." Yes, even that butterfly view of the case will be prevalent with some. These young fellows remind us of St. Beuve, the great French critic, whose recent death has been so eloquently and tenderly mourned in Europe and in America, and who, it is said, was but once engaged in a duel. On that occasion it rained, and St. Beuve insisted upon hoisting an umbrella, declaring that while he had no objection to be killed, he would not permit himself to get wet. In a spirit quite as reckless, though far less witty as this, we suspect that many a young gentleman will say, as he starts on his round of New Year's calls, "I have no objection to be a drunkard, but I will not permit myself to be un-genteel!"

We have felt it to be our duty to mingle with our "compliments of the season" a certain modicum of moralizing. Yet, though our moralizing has been earnest, it has not been, we think, in a very lugubrious strain. We are not aware that sermons are improved by being delivered with a long face. With the utmost fervor of friendship, we now salute all our readers at the opening of this next chapter in the great book of our lives, and we wish them all a "Happy New Year." Yet we are very sure that *their* year will not be made happy simply by *our* wishing it to be so.

Much of the happiness of the time before us depends upon ourselves.

There are some elements of the problem that are, of course, beyond our management; yet the principal ones we can control. Certainly, the coming year will *not* be a happy one to us, in spite of all benedictions, unless we obey the laws of existence. Health must be ours; and in most cases, health is within our reach. Let us not be so frantically and artificially happy on the first day of the year, that we must be *glum* all the rest of the time. Cheerfulness, moderation, purity, intelligent deference to physical laws, kind feeling toward all creatures, reverence toward the Creator—these are the qualities largely within our own power of acquisition, and these are the qualities on which the happiness of the year largely depends.

There is now living in England a celebrated author who has reached a great age, but who is still as sunny, as merry, as hale, and as youthful as many a man of twenty-five. As we ponder the problem of a happy life, certain wise and beautiful sentences of this famous writer float into our memory and demand repetition here, among the "compliments of the season." This is William Howitt's recipe for having seventy-five Happy New Years. "For my part," says he, "seeing the victims of fast life falling around me, I have willingly abandoned the apparent advantages of such a life, and preferred less popularity, less gains, the enjoyment of a sound mind in a sound body, the blessings of a quiet domestic life, and a more restricted but not less enjoyable circle of society. I am now approaching my seventy-fifth year. I can not, indeed, say, vigorous as I am, that I have reached this age without the assistance of doctors; for

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I have had the constant attendance of those four famous ones—Temperance, Exercise, Good Air, and Good Hours!"

To William Howitt's four famous doctors we recommend all our readers to apply for advice on New Year's Day, and then to follow that advice during every succeeding day of the year. Then we are certain that the year will be happy, not only while it is a new year, but when it gets to be an old one, also!

To us, already, the New Year opens with every promise of happiness. THE HERALD OF HEALTH grows with the time. It seems to be younger and stronger as each year passes. Our prospects are bright. Our contributors, both old and new, are full of power. Our list of subscribers insists upon the privilege of continually growing large. And we devoutly say, Amen!

THE RICHARDSON MURDER — AFTER THOUGHTS.—Perhaps no murder within the present generation, has so deeply moved the feelings of the people of this city as the shooting of Albert D. Richardson by Mr. McFarland. It is not our purpose in this place to enter into a discussion of the merits or demerits of either side of the question. This the daily papers have done far beyond what they had any right to do. But there is one thought which is suggested by the sad affair, which, while it has not been, ought to be considered. Mrs. McFarland had left her husband; why? Because he drank; because he shamefully abused her, and made her life unhappy. This is one answer to the question. The other party deny these charges, and claim that Mrs. McFarland left her husband not because he was unkind to her, but because she did not love him, or loved another better. View it from which of these standpoints we will, we can not come to any other conclusion than this: that two persons had joined their hands in the sacred bonds of marriage who should never have done so. If he was a brutal husband, or if she did not love him, it matters not which, the parties made their first and great mistake in ever marrying at all, and this brings us to the thought that lies uppermost in our mind: that there are too many ill-assorted marriages in this world of ours. People rush at each other without sense or judgment, become husband and wife, father and mother, and then, when separation brings pain, heart anguish, and disgrace on both parties and on innocent children, they apply for divorce. Marriage is not made half sacred enough. We ought to surround this institution with all that is tender and sweet, pure and good in human nature; and to do so, young people must think well before taking this important step of choosing a companion for life. There ought to be some science by which parties might know before-hand whether two persons can live together happily or not. As it now is, instinct, caprice, fancy, passion decides the question; or, if Reason undertakes to act, she has no really reliable data from which to decide. If our philosophers, or scientists, or moralists would put their heads together and discover the true law of marriage, this would do vastly more for their age and generation than they can do with spectral analyses, Ecumenical Councils, or enthusiastic studies of comets and eclipses.

WHO ARE OUR EDUCATORS?—It is claimed by many that women are the true educators of the young. So they are, but that women are their only educators is an error. They require both male and female teachers to give the best education. Some things women can teach better than men, and some things men can teach better than women. Language, for instance, can be taught best by women, oratory by men; mathematics can be taught as well or better by women as men, and so can botany and history, but physiology, geology, and logic are taught best by men. Take it all in all, the influence of the sexes on the young is about equal. The woman teaches gentleness, refinement, delicacy, intuition. The man logic, science, energy. None of these virtues are of much use without the other. Of what use is gentleness without energy, or logic without intuition, or science without delicacy and refinement? It is thought by some that delicacy is synonymous with weakness. It is not. Deli-

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cacy and refinement are *powers* quite as valuable as any we can have, if coupled with those other powers that make the character complete. As it would be unfortunate for a young person to be instructed only by a man, so it would be equally so to be instructed only by a woman.

A PLEA FOR MONEY.—To preach a crusade indiscriminately against the universal desire and effort for the good things of the world, is to waste one's breath upon the empty air. Men will not listen to abstract arguments showing the folly of pursuing riches while they feel every hour the pressure of wants which money could supply, and the most eloquent sermon in praise of poverty provokes in our day but a sneer. Have we not learned that the desire to accumulate property is as truly a part of human nature, and plays as important a part in the progressive improvement of the species as the love of knowledge, the sentiment of duty, or the capacity for religion?

No want of man's nature can safely be neglected. The mind needs nothing so much as balance. The superstructure of personal character, to be symmetrical, should be built up on all sides at once. "The things the Gentiles seek after," meat, fire, and clothes, are as legitimate objects of pursuit as wisdom and virtue. To seek either to the neglect of the other betrays ignorance of the true conditions of well-being, and defeats the purpose for which life is given. Poverty is a condition which the wise man accepts only when forced upon him by inexorable necessity, or as the alternative of dishonor. He regards it a sore evil and burden, from which escape is to be sought by the use of all honorable means. Whatever may be said of the danger of riches, the dangers of poverty are a hundred-fold greater. A condition of physical want entailing habitual discomfort, if not settled discouragement and disease, is extremely unfavorable to the exercise of the higher functions of the mind and soul. The poor man is every hour beset with a thousand temptations which the rich never feels. If he is honest and sober, and humane, he deserves a word of praise. If, in addition to these commonplace virtues, he maintains a serene and pious trust in divine Providence, his faith is great enough to remove mountains. For does it not require a strength of moral endeavor well-nigh angelic to keep the mind peaceful and pure, while the body is housed in a hovel, and meanly clad and fed? Nevertheless, this miracle is daily wrought out somewhere, through the power of religion. Still, if you or I, dear reader, under such conditions should try to live divinely we might miserably fail. Undoubtedly that was a wise prayer of the ancient prophet, "Give me neither poverty nor riches; feed me with food convenient for me, lest I be full and deny thee, and say who is the Lord? or lest I be poor and steal, and take the name of the Lord in vain."

No man should settle down with contentment in a condition of poverty, so long as there is a possibility of honorable escape. No man or woman should be satisfied with working for a bare subsistence while there is the shadow of a chance to do better. It is a demoralizing condition to be in, even though one's work should be noble. It exposes him to the danger of some day becoming a burden to his friends, or to the community in which he may chance to live. However beautiful and appropriate Christ's precepts about living without care or thought for the morrow may have been for the genial climate and simple manners of ancient Judea, they are certainly very inconvenient, and must be considerably modified when applied to actual life in these high latitudes, and amidst the merciless competitions of our times. These, like certain other precepts of Christianity, are to be regarded as "counsel of perfection," to be treasured in the heart rather than an inflexible rule for the conduct of life at all times. They are always, indeed, to be acted upon in spirit, yet not without regard to the circumstances in which we are placed, and the relations we sustain to others.

While, therefore, people will not heed, and ought not to heed the teaching which represents all objects as unworthy of pursuit which are not purely spiritual or ideal, they are generally

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open to that sort of instruction which, while it recognizes and honors every part of human nature as divinely created, aims only to repress those tendencies which are excessive. And few there are who will not readily admit that mankind, through the weakness of their moral desires and intellectual aspirations, are liable to neglect the permanent spiritual interests of existence in their absorbing pursuit of those forms of good which perish with the using.

The relative importance of wealth increases with each successive generation. For human life, as the race progresses in knowledge and general culture, is continually growing more rich in opportunities and enjoyments. Money is the grand instrument through which one is to be put in possession of these. Its value, therefore, never was so great as at the present time. With a given sum of money a man can surround himself with ampler means of enjoyment, secure a more varied and nobler culture, or set in motion grander schemes of usefulness than at any preceding period in the world's history. Correspondingly, never was the lack of money so heavily felt as by those of the present generation. Never was poverty so hard to bear and attended by so few compensations as now.

These remarks apply to life in all enlightened countries, but they have a special significance taken in connection with the peculiar conditions of social life here in the New World. Under our system of free government, aided no doubt by the vast area and marvelous richness of our national territory, the active powers of man are unfolding to a degree of breadth and intensity hitherto unattained. No field of enterprise or adventure which our countrymen do not boldly invade; no triumphs of art, no flights of invention, no conquests of mind over matter, which they do not attempt or hope to achieve. Nowhere else on the face of the globe is life so rich in possibilities as here in republican America. Nowhere else is money so much needed, to seize upon and work up the opportunities that are continually presented to private and public enterprise.

It would not, therefore, be strange if, under the pressure of constant temptation, the appetite for gain should have grown to be unduly active and influential in the minds of our countrymen. It would not be strange if our best endeavors should appear to have run into an excessive and feverish pursuit of the *means* of living. And in fact, is not this, in the main, a just characterization of our social life? Practically, is it not regarded as the grand function of the American citizen to make and to spend money? Have our people, as a general rule, any higher or ulterior purpose in living? And yet it remains for ever true, that life is more than the means by which it is sustained—more than food, raiment, dwellings, lands, merchandise, stocks, bonds, dividends. All things are for the mind, and if this nobler part come not to honor, dignity, and self-possession, the most royal furnishings only serve to set forth, by contrast, its deep poverty and servitude.

DECAY OF FAITH.—The Philadelphia Medical and Surgical Reporter for November 6 publishes an editorial upon Vague Therapeutics, which is full of meaning. It declares that the "decay of faith in drugs has had a disastrous effect on the profession, as well as on the patient. It has led students to disregard Therapeutics and Materia Medica in favor of diagnosis and do-nothingism, which latter soon brings on know-nothingism. The divorce of Pharmacy from Medicine—a most disastrous separation for both arts—led to an ignorance of drugs, and this ignorance has naturally brought about a disuse of them."

The fact which gives sadness to the Editor of The Reporter fills us with delight. The people may rest assured that the regular practitioner would never give up his faith in drugs, did he not daily discover in practice their inefficiency. We meet every day regular practitioners who tell us frankly they give little medicine, and would give none if their patients would be satisfied. We see patients constantly who have put their faith in drugs till their bodies were walking apothecary shops, and they showed evidence in their persons that they

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had a perfect right to lose their faith in the medicines that made them worse. The truth is, the people are gaining knowledge, and their knowledge is making them free.

We are confident that the writer of the article referred to can not show any disastrous results from the decay of faith of which he mourns. Faith in drugs prevents faith in Nature and Hygiene, and good care, and we regard the latter as of greater worth than all the drugs in the world.

SOME ERRORS CORRECTED. — LETTER FROM DR. F. R. LEES.—TO THE EDITOR OF THE HERALD OF HEALTH—*Dear Sir:* In perusing some numbers of your periodical I noted errors that seem worth correcting. The passage on "Oatmeal," page 38, attributed to Dr. Letherly, belongs to Dr. *Letheby* of London. At page 25, column 2, "*op*pression" is put for "*ex*pression." At page 66, in article on the "Grape Cure," an idea of fanciful Dr. Curchod's is reproduced, having been previously adopted, page 29—the notion that the products of digestion are *similar* to the products of vinous fermentation. The contrary is the case. Nor is it true, as stated at page 28, column 1, that the elements of *glucose* are "distributed *from the lungs*" *through the circulatory system.* The glucose is decomposed *in* the capillaries, not *at* the lungs, whose function is simply to take in oxygen and eliminate carbonic acid. The lungs are not, like a *stove* whose fuel is burnt, *hotter* than the pipes which distribute the heat. It is, besides, a partial reproduction of Prof. Johnstone's ignorance, who represents carbonic acid as a *necessity* of the system, instead of the *expulsion* of it! For the decomposed *elements* of glucose—of which carbonic acid is one —are not distributed *into* the system, but expelled *from* it.

To say that the change of grape juice in the system is "*similar* to the process of fermentation by which must becomes wine," is simply ridiculous or misleading.

In that last process albumen *rots* and becomes *yeast* (which is *incapable* of assimilation), and sugar becomes *alcohol* and *carbonic acid;* but the albumen of grape juice in the body becomes the albumen of the blood, and the *tissue* of the body itself; while the sugar never changes in the system into alcohol or any of its peculiar derivatives—whatever Mr. Evans may affirm, or Dr. Curchod may fancy.

I have frequently visited wine countries—Vevay included—and I have seen *much* drinking and drunkenness; and have found that there, as here, *most* of the crime, lunacy and pauperism, results from the use of wine and *eau de vie.* Not *so* much perhaps as here, because the people have not the means of buying so much. The temptations to drinking do nothing but harm; and when I was last in those parts, I observed that a tale expanding the evils of drinking was running, by chapters, through the most popular papers. Stern *statistics* show the greatness of the evil, even in Switzerland; and in several cantons they have adopted a permissive prohibitory law—a fact which is more significant than any Traveler's Tale.

F. R. LEES.

EVENING SOCIABLES AT NO. 15 LAIGHT STREET.—The proprietors of the Hygienic Institute, have inaugurated for the benefit of their guests and patients a series of entertainments for the present winter evenings, which have so far been well received and popular.

The first was a lecture on Physiology, by Mrs. D. Lyman of New York, to which was added Elocutionary Exercises, by Prof. Lyman. Both are well known to the public as lecturers. Mrs. Lyman is doing a good work in the city this winter by her lectures to ladies, which are both popular and interesting.

James T. Clark, the poet, composer, and sweet singer, sung for us one evening, greatly to the delight of all our guests.

Mrs. Anna Randall, one of our most popular readers and teachers of education, has also given us an evening of great pleasure, and we hope to listen to her again during the winter.

Others have promised to help us in making life pleasant here, of which mention will be made hereafter.

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We will mention in this connection, that our parlors have been improved by the addition of one of Bradbury's best pianos, the music of which helps to make time enjoyable and our friends happy.

THE GOSPEL OF THE GALLOWS.—In the early autumn of 1869, a murder unusually tragical and pathethic was committed in the city of Detroit. The whole town fairly rocked with excitement. Threats of lynching were made, and a great crowd assembled around the jail by night, as if with the purpose of taking out the murderer and suspending him from the lamp-post. In the midst of this popular frenzy, one of the Orthodox clergymen of the city preached a sermon in favor of hanging, having previously announced, through the papers, his purpose so to do. It seemed to the good man that the public mind, being aroused to an abnormal condition of rage and vindictiveness, were in a fit state to receive a fresh installment of the Gospel of the Gallows. The sermon was neither very bright nor very able; but as there were inflammable materials lying all about, it did not take much of a spark to make quite a blaze. From that time almost to the present, an active discussion in Michigan has been going forward, partly in the pulpit and partly in the press, upon the whole subject of capital punishment; a discussion into which we notice that some papers, even in New York, have been drawn.

This discussion has many practical issues in Michigan, and elsewhere. It is of great interest to the people of that State, because twenty-three years ago its Legislature decreed the abolition of the death penalty; and an attempt is occasionally made by a few kind souls, hankering after the old Jewish regime of blood for blood, to revoke that enlightened action. The discussion is of great interest in other States, either for a similar reason, or because there is a growing desire to remove from the statute books this barbarous edict of death.

For twenty-three years its people have lived without the protection of the gallows. Have any frightful consequences followed? Has life been more insecure? Has the State become the paradise of assassins? Does murder riot and revel there under the hope of impunity? Quite the contrary. Its criminal register will compare favorably with that of any other community in the world. Life is environed there by no peculiar perils. As one of its Ex-Governors has recently stated, "for almost an entire generation of men has this State refused to shed human blood; and has proved to the world, by noble example, *the safety of humanity in law!*"

For our part, we think that they make a great mistake who deny the right of society to protect itself by taking away life. The safety of society is the supreme law. Society has a right to make war, to take property, liberty, life, or whatever else may stand in the way of its security. To deny this for the sake of doing away with capital punishment, is to take untenable ground. It is bad generalship, for it fights the battle on the worst field. The argument against the death penalty is strong enough without the help of this position, even if it were a good one.

Granting, then, that the State may inflict the death penalty, if it be expedient, we have next to inquire, *Is it expedient?*

We say No, for the comprehensive reason that all the ends of society can be better secured without it.

That sentence, of course, involves all the points at issue. Over that sentence the battle must be fought.

Let us examine a few of its principal points:

1. The ends of society can not be secured—that is, society itself could not be held together unless it satisfied, on the whole, in its treatment of criminals, the sense of retributive justice implanted in our natures. That is a legitimate instinct that tells us that a wrong-doer ought to be punished. It will not do to dispose of this by calling it the spirit of revenge. It is the spirit of justice; and men will not long agree to live together in society unless in the legal conduct of society this spirit is satisfied. If the infliction of punishment is obviously inadequate, or obviously excessive; in either case,

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society itself is endangered. If a criminal be over-punished, society is demoralized by having its indignation turned into sympathy. Now, in the present development of human nature, this is precisely what is done in the vast majority of cases in which the death penalty is inflicted.

Frederick Robertson has said, "I feel persuaded that society is fast approaching to a state in which it will be perilous to the morals of the community to retain the practice much longer. Symptoms of disgust and sympathy are beginning to be manifested so generally, that it is only in atrocious cases, where a feeling of revenge for a horrible cruelty satisfies itself with the criminal's death, that deep murmurs of dissatisfaction can be suppressed."

On the other hand, while the death penalty outrages the sense of justice, by exceeding it; imprisonment for life, at hard labor or in solitary confinement, is felt to be so terrible a punishment as not to fall below the requirement of justice.

2. As society can not be held together unless it satisfies the general sense of justice, neither can it be held together unless it satisfies the general sense of security. If the units of whom civilization is composed do not feel that they are protected by association they will fly asunder; each man will be his own protector; thus civilization will dissolve into savagery. If the death penalty be necessary to this sense of security, let the death penalty be inflicted. But it is not necessary. Experience amply shows that it is not necessary. If life were insecure in Michigan immigration to that State would cease, while many of its actual inhabitants would flee from it as a place of danger. But how is it? No human being, we venture to assert, ever gave up the plan of removing to Michigan because capital punishment does not exist there. Its population has increased with amazing rapidity since 1846. One ounce of fact is worth a hundred pounds of theory. The theorist declares that capital punishment is necessary to the sense of security, but the case of Michigan alone disproves the statement. When on a journey westward, do you feel any more secure from murder on the Great Western Railway in Canada, where they hang, than on the Michigan Central, where they do not hang?

Imprisonment for life is sufficient to deter from murder any man who would be deterred by any consideration whatever, while it proves an even greater safeguard than capital punishment, because the prevention of crimes depends more upon the certainty of punishment than upon its severity. On this point an ancient jurist of Michigan has made the following statements: "Before the offender can be hanged he must be convicted. Under the humane statute of Michigan conviction is quite easy, since opportunity is left for the correction of errors and mistakes. Jurors are not put under the painful apprehension that if they should chance to misjudge, as all men are liable to do, an innocent man might be sent to the gallows, and a piece of cruelty enacted that should move the pity of both men and angels. Under the laws which denounce death against the criminal, however, the case is very different, and convictions are hard to be obtained.

When the juror knows that his verdict of guilty means death to the culprit, he will hesitate long before he renders it. The plea of insanity has become most common and formidable in capital cases, for the reason that the question of soundness of mind is always one of great difficulty, and the law gives the benefit of the doubt to the defendant. But this formidable plea has ceased to avail any thing in Michigan, except when it can be clearly made out. The courts and juries feel that if they are mistaken, the future will develop the fact and the accused will not be beyond the reach of hope.

The probability of conviction in a case for murder in our State, as compared with those States where the death penalty exists, are more than five to one."

But in our opinion, there is under this head another consideration still more convincing: it is for the law to set the example of the sacredness of human life. Say what we will, hanging, whether justifiable or not, is a spectacle of desecration. The illustrious English

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statesman, John Bright, has put this thought into noble expression: "Barbarism in the law promotes barbarism among those subject to the law; and acts of cruelty under the law become examples of similar acts of cruelty, done contrary to the law. *The real security for human life is to be found in reverence for it.* If the law regarded it as inviolable, then the people would begin also so to regard it. A deep reverence for human life is worth more than a thousand executions, as the prevention of murder."

Let society inspire all its members with this hallowing sentiment, by showing, in its most august and terrible functions, how great and good a thing it is to revere

"the breath we hold with human kind,
And look upon the dust of man with awe."

PUDDINGS, AND HOW TO MAKE THEM.—Mrs. Dr. L. A. Jenkins, who has given us so many valuable recipes for healthful food, sends the following on puddings:

FIG PUDDING.

Take half a pound of best figs, washed and chopped fine, two tea-cups of grated bread, half a cup of sweet cream, half a cup of white sugar, and one cup of new milk. Mix the bread and cream, add the figs, then the sugar, and, lastly, the milk. Pour the mixture into a mold, and boil four hours.

Eat with a liquid sauce.

APPLE CUSTARD.

Peel, quarter, and bake rich tart apples, or stew them slowly in a very little water; fill a pudding-dish two-thirds full. When cold, pour over a custard made by stirring into a quart of boiling milk a table-spoonful of flour wet up with a little milk, two spoonfuls of white sugar, and two eggs. Flavor with lemon. Bake in a quick oven.

To be eaten cold.

TAPIOCA PUDDING.

Soak a tea-cup full of tapioca in three and a half cups of boiling water, and two spoonfuls of white sugar. Keep it in a warm place for three hours. Fill a two-quart pudding-dish three-fourths full of rich, ripe tart apples, peeled and quartered. Pour the tapioca over the apples and add half a tea-cup of cold milk to brown the tapioca. Bake one hour.

SAGO PUDDING.

Pick over and wash a tea-cup full of sago; pour on nearly a quart of boiling water; add a half tea-cup of sugar, and a little milk, if preferred, to brown. When cold, pour it over the apples, or mix the two together in a pudding-dish and bake an hour. Cover the dish the last half hour.

FARINA PUDDING.

Sprinkle two-thirds of a tea-cup full of farina slowly, into a quart of boiling water; add half a cup of white sugar, and a cup of milk. Mix thoroughly, and pour it into a pudding-dish, in which a quart and a half of nice tart apples, peeled and quartered, have been put.

Or, mix the apples and farina together. Two tea-cups full of pitted raisins, previously stewed, may be substituted for the apples. Bake one hour.

RICE AND APPLE PUDDING.

Pick over and wash a tea-cup full of best rice. Steam it, until tender, in two cups of cold water; spread it over a quart or three pints of good ripe apples, quartered; pour over one or two cups of milk, if preferred, or omit the milk and add a little water to the apples. Half a cup of white sugar may be sprinkled over the apples, or sugar may be added at the table, if preferred.

To an unperverted appetite, this and several of these puddings will relish without the sugar, or indeed the milk, if carefully baked, and if rich apples are used.

A good rice pudding is made by stirring two cups of pitted and stewed raisins into the steamed rice, milk and sugar, and baked an hour.

BLANC MANGE AND FRUIT PUDDING.

Boil for a few moments six spoonfuls of dissolved corn-starch in a quart of boiling water.

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Pour it immediately over a quart of ripe peaches, previously peeled and quartered and placed in a dish with sugar sprinkled over them.

To be eaten cold.

Instead of peaches, mellow pears or apples, or stewed quinces, ripe plums or cherries, or marmalade or jam may be used.

Instead of the corn-starch, five spoonfuls of fine flour, or, still better, graham flour, with or without an egg, may be substituted.

RICE PUDDING.

Wash thoroughly a tea-cup full of best rice, add half a cup of white sugar, a quart of water, and the same of milk. Bake slowly four hours, stirring occasionally, except the last hour. A cup of raisins is an improvement.

HYGIENIC TREATMENT OF DOGS.—LETTER FROM DR. DIO LEWIS.—"DR. HOLBROOK—*Dear Friend:* You will remember Pennie and Jessie, our pet dogs. They are well, thank you, and Jessie lies in my lap while I write this note. Never have I met among my human friends such untiring devotion as these little friends have lavished upon me. (An Express receipt lying on my table is ornamented with the picture of a dog, to give the Company's highest idea of fidelity.) What can be the reason for the general dislike of dogs? Why are scamps spoken of as "lying dogs," when the dog is the highest expression of truth?

When we recall that wherever we find the skeleton of the primitive man, in the old caves, we find lying beside it the skeleton of a dog, his faithful companion in life and death; when we recall the important contributions the dog has made to civilization; when we observe the constant proofs of his unflinching devotion seen on every hand, the common contempt seems strange and hard.

Numerous utilitarian skinflints propose to kill the dogs, because a few sheep have been killed by them. For my part, I had rather have one good dog than half-a-dozen sheep. The sheep help to keep our bodies warm, but higher than this service, the dogs keep our hearts warm. If there were not room for both, and we were obliged to choose between enjoying dogs and freezing to death for lack of wool, I would join the dog-killing party; but no such alternative exists. The sheep killing has been made the excuse for giving vent to an existing hatred toward these poor creatures. I give notice that I shall defend my dogs when the killers come.

But what I had in mind to say when I took up my pen was, that we cruelly torture these speechless creatures by failing to provide them with water. A part of the year we, in Boston, provide dogs with abundant supplies, in a very simple, Christian way, at the drinking fountains, but during all the residue of the year we give them not a drop. With opportunity, a dog will drink five to ten times a day even during winter, but there are thousands that get no water for days, and even weeks, when the outside supplies are frozen up. And I may add, thousands die of the fever which a long protracted, torturing thirst produces.

In our house we have a bowl, always filled fresh every morning, so placed that our dogs have easy access to it. And although they are very small they consume a pint a day.

Feeding them once a day only, upon good beef or mutton, and never neglecting the water supplies, they have not had a sick hour during the year.

On behalf of civilization, a man could hardly be engaged in a more Christian work than multiplying fine dogs. Loving, perpetual babies, they are a well-spring of joy to the Christian home.

Not only have the sweetest poets striven to respond to the love of the dog; not only have these faithful ones striven in their dumb, patient way to teach us the lessons of love and faith; not only do they embody some of the noblest sentiments of the human soul, but in that beautiful future, they will enjoy with us the peace and rest which the good Father holds in reserve for truthful, loving, harmonious souls.

DIO. LEWIS.

BOSTON, Mass., *Dec.* 5, 1869.

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How to Treat the Sick.

CHOLERA INFANTUM AND DYSENTERY.—Dr. A. G. Humphrey of the Western Health Institute, Galesburg, Ill., sends us the following case which recently came under his care. It was of a child ten months old.

The child was attacked with cholera infantum, September 15, 1869. The village doctor was called, and the little sufferer was drugged for a week with no good results. Then an older physician was sent for, who changed the medicine, but thought the diarrhea could not be stopped until cold weather.

The combined skill of both doctors did not check the disease. At the end of two weeks dysentery set in, the child having bloody mucus discharges every hour; this continued for more than a week, when dark bloody passages began to appear. The old doctor at this stage prescribed a new remedy, consisting of lime water and milk, a quart to be given every day, in addition to the powder every hour, and nursing every two hours. The little sufferer, with more instinctive wisdom than the doctor possessed, persistently refused to take even a tea-spoonful. A few days later and fresh red blood passed in great quantities of half a tea-spoonful every hour.

The young doctor now said something must be done immediately, and hastened to his laboratory to prepare the curative (deadly) dose.

Meantime, the friends were consulting with reference to a change of doctors, and decided to send for a Hygienic physician.

I arrived at 3 o'clock on Friday morning, the fourth week of the child's sickness. Found it having the red bloody discharges, occasionally mixed with dark bloody mucus; terribly collapsed state of the bowels; its mouth and teeth were turned black, and all over the abdomen and ribs the skin was turned to a dark purple hue, as though mortification was taking place; the respiration was exceedingly labored, causing a desperate reaching of the head for every breath she drew, and had been constantly moving for three weeks.

I commenced treatment with very little hope of saving the child. Gave small cool injections, and gave fomentations over the entire front part of the body, followed by cool applications. Took her in my arms and carried her gently in a cool room, and soothed her most tenderly, with the softest sounds I could produce to induce sleep. In a few hours the hemorrhage was stopped, the respiration improved, and sleep more natural. She appeared to improve, in all respects, until the afternoon of the second day, when her respiration became suddenly labored, the eyes set, and the muscles relaxed. I considered her dying. In an instant, I gave her a fomentation across the diaphragm for ten minutes, followed by cool applications. This revived her a little, but soon she sank away again and respiration stopped. I quickly placed my hands upon her sides, and gently imitated respiratory motion. In a moment she gasped, caught her breath, and gradually recovered from the spell.

Each of the following days she had a similar paroxysm, passing through nearly all the phenomena of death; beginning with the long reaching of the head for the inspiration, and moving with the expiration, which grew shorter and shorter, until the chin only moved; the muscular contortions were as completely death-like as any I ever witnessed.

For five days and nights I gave constant personal attention to the apparently-dying child. Of the many little things I did, every application was observed, by all who witnessed the treatment, to have always an immediate good effect.

On the morning of the fifth day of my treatment, strong hopes was entertained of her recovery. From the first of my care of the case, not a drop of any thing passed its lips except pure water and a little of its mother's milk, once in four hours, regularly.

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The fifth day she was carried in the open air, and each day afterward she was placed in her cab and drawn on a south verandah three to four hours, at intervals of half an hour to an hour and a half each.

The parents and friends feel as though this little one was handed back to them from the very verge of the grave.

Thanks to the incomparable superiority of the Hygienic over all the other medical systems of the world.

Let THE HERALD OF HEALTH continue to disseminate a knowledge of the *true healing art*, until all learn this simple but effective system of relieving and curing all the diseases that afflict humanity.

TREATMENT OF ODOROUS FEET.—Many persons have feet which emit a very disagreeable odor, and do not know how to treat them. The cause generally lies in little ulcers between the toes, or a diseased condition of the skin, caused by the toes being pressed too closely together and deprived of air and light. In many cases the difficulty baffles all efforts to remove it, and remains for life. The best remedy for this condition is to go barefooted during a few months in summer, when the toes will spread, and the air and light will produce a healing effect. Where this is not practicable, the dry earth cure is nearly as good. Occasionally cover the surface between the toes with a coating of this dry earth. It will at once absorb the offensive odors, and then healthy granulations will take place, when a new skin will be formed and health result. Washing the feet in warm water, soap and water, etc., is not in this case sufficient, as this does not destroy the surface that secretes the poisonous matter which is so offensive. Still another good application, and one that at once destroys the odor, is an application of carbolic acid diluted in water.

A GOOD PRESCRIPTION.—The Medical Investigator calls the following a Homœopathic prescription.

A handsome young widow applied to a physician to relieve her of three distressing complaints with which she was affected. "In the first place," said she, "I have little or no appetite. What shall I take for that?" "For that, Madam, you should take air and exercise." "And, Doctor, I am quite fidgety at night-time and am afraid to be alone. What shall I take for that?" "For that I can only recommend that you take a husband." "Fie! Doctor. But I have the blues terribly. What shall I take for that?" "For that, Madam, you have, besides taking the air and the husband, to take a newspaper."

TRAVELING WITH CHILDREN.—Children will bear the fatigues of a journey quite as well as grown people, if they are properly cared for. In the first place, do not try to keep them too still. Their little bodies are all life and motion, and repose while awake is impossible. It will weary a three-year-old child more to keep still an hour than it would to play half a day. A worse practice still is giving children cakes and candies while on a journey. Plain, wholesome fare at regular intervals is all-sufficient. A moderate allowance of good fruit is well. The constant gormandizing of children with cake, candy, and fine food is almost certain to result in fever and irritability, and sometimes in death.

COLLEGE STUDENTS AND TOBACCO.—A large number of the students of all colleges use tobacco. Their education does not go deep enough to prevent it. In Oberlin, Ohio, however, it is said the students do not use it. The reason for this strange conduct on their part is said to be because there are so many lady students in the institution. If so, here is another strong argument in favor of educating the sexes together.

A VALUABLE CIRCULAR.—See valuable circular of Hygienic Institute and Book Circular bound with this number.

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ANSWERS TO CORRESPONDENTS.

BY A. L. WOOD, M. D.

Treatment of Whooping Cough.—"Will you please state through THE HERALD what is the proper treatment for whooping cough? It is the prevailing disease among children here, and if relief can be had from the violent paroxysms of coughing, 'twould be a decided blessing, both to the children and their mothers."

Mild cases of whooping cough and the first stage of more severe cases require treatment varying but little from what healthy children should receive. The diet should be plain and unstimulating, and great care be taken not to overload the stomach. The bowels must be kept free and regular by proper food when possible; when not, by water enemas. Engorged stomachs and constipated bowels greatly aggravate the severity and danger of this disease. Only pure, soft water should be allowed for drink, and that may be taken freely, except at and soon after meals, with good results. As much out-door exercise as possible, short of fatigue, should be taken daily. A plentiful supply of pure air at all times is indispensable. Confinement in over-heated rooms must be avoided, as it predisposes to colds. Free exposure to sunlight is important, and no room should be occupied, by night or by day, wherein the direct rays of the sun can not freely enter. A cool sponge or towel bath over the whole body should be taken daily, in a warm room, and followed by thorough rubbing and friction. Bathing the chest with cold water, followed by friction till the skin is red, will prove very useful, and may be done two or three times a day. In short, the treatment should be directed to the invigoration of the system, and to the improvement of the general health.

In severe cases, attended with fever, pain, heat, and soreness in the chest, difficult breathing, and severe paroxysms of coughing, the treatment must be adapted to the existing conditions. The fever may be allayed by the wet-sheet pack, or by tepid spongings of the body, repeated until the fever is reduced. Care must be taken to keep the feet warm. Where there is pain, heat, and soreness in the chest, cloths wet in cold water should be applied to the chest and rewet as often as they become thoroughly warm; or a jacket made of two or three thicknesses of linen, or heavy cotton cloth, and covering the whole chest, may be wet and worn as above, rewetting as often as it becomes warm. In cold weather there should be enough flannel worn over it to keep up a comfortable degree of warmth. To relieve the paroxysms, drink freely of warm water, to the extent of producing vomiting, if necessary.

Treatment of Burns and Scalds.—"What is the proper Hygienic treatment of burns and scalds?"

If the burn or scald is a severe one, occasioning a general fever, it must be reduced by general bathing, suited to the conditions and strength of the patient. If the skin is not removed, all the local treatment necessary is to keep the part covered with soft, fine linen, wet with water, at a temperature most agreeable to the patient. When the skin is removed, some substance must be applied to keep the air from the exposed surface beneath, until the injury can be repaired. Fine, moist clay is one of the best materials for this purpose. If this can not be obtained, use a thin covering of fine flour, covered with a wet cloth. When it becomes loose, remove carefully, wash with warm water, and apply another coating of flour.

The discovery has recently been made in France, that covering the burned surface with varnish is a very successful mode of treatment. I have not had an opportunity of trying it, but the plan looks reasonable, and I should expect the greatest success from its use. I should be pleased to hear from any one who has tried it.

About Water Supply-Pipes.—"What can I use as a water supply-pipe? Is gutta percha the best? How is galvanized iron? Is there not mischief in it, or in the zinc used to whiten it? Pure block tin is not to be had, for they will mix lead with it when the pipe is drawn, in order to make it more ductile. Is rain water, running through lead goose-necks from a roof, with sheet lead round the chimney (as is usually the case), preferable to well water as a drink?"

It yet remains for some one to achieve fame and fortune and confer an incalculable amount of good upon the race, by inventing water supply-pipes which shall possess the following re-

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quisites: 1. Entire freedom from corrosion by any and all kinds of natural waters; 2. Exemption from the action of air and moisture and a moderate degree of heat; 3. Flexibility, strength and ease of joining; 4. Cheapness. The nearest approach to this standard, at present, is the tin-lined pipe. The objections to the tin-lined pipes are: 1. Where joints are made, the tin and lead come in contact with the water, and then, owing to galvanic action, the corrosion of the lead is more rapid than if tin was not present; 2. The tin lining is liable to cracks and flaws, which allow the water to come in contact with the lead, with the same result as at the joints; 3. There are some waters that rapidly corrode the tin itself, when it is not in contact with lead or other metal. If, as this correspondent states, lead is mixed with the block tin to make it more ductile, this is still another and more serious objection. Gutta percha will not withstand the action of air and moisture, and is consequently useless. Iron rusts, and, if galvanized, the water dissolves the zinc coating. The answer to the last question depends upon circumstances. If the well water is pure and *soft*, then it is preferable. If it is hard, choose the rain water, and filter it. If we adopt the rule *not to use water which has stood or been long in contact with metal*, we shall escape with slight injury.

Treatment of Frozen Flesh.—Keep the surface of the frozen part at or near the freezing point—32° Fahrenheit—until it is thawed out by the heat from within the body. Remember this, frozen flesh should be thawed from *within*, not from without. The reason is this: If the melting commences by the action of the warm arterial blood, at the deepest part, the frozen blood, as soon as melted, is carried away by the veins without rupturing the delicate network of capillary vessels which form the connecting link between the arteries and veins. If, instead, the thawing commences upon the surface, the blood, as it becomes liquefied, will remain upon the outside of the frozen part, as the vessels which should convey it away are still frozen up. This blood soon changes its color, expands with the heat, and causes intense pain, and is liable to burst the little capillary vessels which contain it. The best way to keep the surface of the frozen part at the desired temperature, is to keep it in water in which there is a considerable quantity of ice or snow until it becomes entirely thawed out from within. Frozen flesh should, on no account, be rubbed. The frozen part is filled with minute vessels, running in every direction, each one of which contains an icicle. Now if the part is rubbed, the effect is to break these minute icicles into thousands of pieces, and each piece has its sharp corners, which are forced through the walls of the vessels, tearing them to pieces, and lacerating the flesh, so as always to cause great soreness, and oftentimes disorganization and death of the part. While rubbing the frozen part itself should be carefully guarded against, it is useful to rub the adjoining parts, as it greatly promotes the circulation of the blood, and hastens the thawing in the natural way.

Laws of Health.—"In your excellent HERALD OF HEALTH you mention many times the importance of knowing and obeying the laws of health. (I find it is difficult to do a thing until you first learn how it ought to be done.) I, with numerous others, would be only too glad to obey and practice the laws of health, if you would only state what those laws are."

To teach the laws of health and the penalties attending their violation, so far as known, is one of the primary objects of THE HERALD OF HEALTH. If searchers after knowledge in this direction will *carefully read and study its teachings* from month to month, they will not complain of the want of light upon this subject.

Be Regular.—If you would enjoy good health, be regular in all your habits. Have regular times for eating, and eat at no other times. Whatever system you adopt—one, two, or three meals per day—be regular about it. Do not eat two meals one day, and three the next. Better eat three meals every day. Retire and rise at regular hours. Have a regular time for exercise. Arrange your work, whatever it may be, so that it can be attended to during certain hours, and have other regular hours for recreation, study, etc. In short, have a regular time for every thing, as far as possible, and let every thing be done at the appointed time.

Herald of Health for 1869.—"Please inform me if I can get the numbers of THE HERALD for this past year, 1869, at a reduced price?"

We have but a few full sets left, and those we have had bound in cloth. We will send a copy, prepaid, by mail, for $3.

Catarrh.—In answer to several queries, I would say that an article on the treatment of Catarrh may be found in the May number of THE HERALD OF HEALTH for 1869, page 235.

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NOTICES OF NEW PUBLICATIONS.

MORAL, INTELLECTUAL, AND PHYSICAL CULTURE; OR, THE PHILOSOPHY OF TRUE LIVING. By Prof. F. G. WELCH, Instructor in Yale College. New York: Wood & Holbrook.

This new work is worthy of special consideration, and we are glad to give it an extended notice. Though its need has long been felt, it is the first of its kind published in this country. It is thorough, comprehensive and practical in every page. The author has had a single object in view—to do good; his book has only to be read to accomplish this successfully. It is written in such a pure, true, and brave spirit that none can read without interest and profit, nor turn from its pages disappointed. All should read it: the well, that they may know the value of that priceless boon—*health*, and how to retain it; the sick: that they may learn the cause of their trouble and cure it.

The title explains the character of the work and its mission. We have here four volumes in one. Part I gives full and explicit directions how to build and equip a gymnasium, after the most approved style. To the many colleges, schools, societies, clubs, and individuals who are just now giving Physical Culture its proper and deserved place, this department will prove invaluable, and enable them to greatly improve their gymnasium and apparatus, and save, perhaps, thousands of dollars.

But it does not stop here. It is not probable that any one in our country has had a more extended experience or done more for the physical weal of mankind, in this way, than our author. He has labored assiduously for years, and has succeeded in accomplishing the difficult task of investing and developing a most admirable system of about five hundred exercises, thereby rendering what was before difficult and dangerous, now easy and physiological. The uses of each set of apparatus is explained. This department also contains Forty Weeks Exercises, systematically arranged for the college or school year. The "Home Gymnasium," or twenty-five exercises to be performed at home without the aid of any apparatus. An "Essay on Training" with the Old and New Method; "Rules for Correct Training," etc. And a system of seventy-five beautiful exercises with the Indian Club.

Part II embraces Dr. Dio Lewis's complete system of Light or Musical Gymnastics, with many additions and improvements. Here, too, the author is fully at home. He was among the first to imbibe the enthusiasm of Dr. Lewis, and has been, ever since, his warm friend and supporter. He has been an enthusiastic teacher in this to thousands of both sexes, and has a normal class for teachers every summer. The author has invented a system of "Short Hand," to facilitate the learning of all these exercises in a very short time. The whole system is here compressed in a nutshell.

This department contains also an Essay upon the various systems of Gymnastics. An Address to Teachers, and many valuable hints and suggestions to teachers and pupils. No one is better qualified to speak of these things than the author, and the following autograph letter of Dr. Lewis calling attention to this book will speak for itself:

"*Gentlemen:* This book, full of Prof. Welch's singular purity and earnestness, is not only an admirable guide in Physical Culture, but most fruitful of suggestion in the mental and moral spheres.

Prof. Welch is playing an important part in America's attempt to give place and dignity to physical education. He deserves well of his countrymen, and has already secured recognition as an active force in the great revolution now in progress.

I watch his labors with the liveliest interest, and shall continue to rejoice that we have in the van a leader so wise, just, and enthusiastic.

Yours, truly, DIO LEWIS."

The best recommendation of Part III is to give the headings of the subjects treated:

I. Health. II. The Body. III. Physical Culture. IV. Bathing. V. Air and Ventilation. VI. Food—Eating and Drinking. VII. Sleep. VIII. Fashion. IX. Beauty. X. Amusements and Excesses. XI. Man. XII. Woman. XIII. Husband and Wife. XIV. Parents and Children. XV. Religion. XVI. Education. XVII. Manners. XVIII. Character. XIX. The Physician and Medicine. XX. Voice Culture. XXI. Hints and Rules.

The *subjects* certainly are worthy, and they are treated in a plain, simple, and new manner that will prove generally acceptable to all. Upon almost every page will be found sentences of vital importance, and put in such a manner as to cleave so powerfully to the memory as to act upon the daily life of every reader. Each chapter is subdivided into many parts, the whole comprising 200 pages. To the general reader, this must prove the most interesting, the most important part. Almost every thing pertaining to the "House we Live in," is here treated in a modest and simple manner.

Who does not desire good health? When we lose it, how much we are willing to give to regain it. These pages instruct the reader to live as not only to avoid disease, but how to enjoy our God-given faculties capable of producing more happiness than most of us know any thing about. We especially commend this part of the work.

Part IV would also speak for itself, should we give some of its contents. The author does not claim much originality here, but has shown good judgment and a wise discrimination in making a selection that is decidedly readable, and in adapting most of the selections to the title and character of the book. We select a few headings: Genius and Learning, Facts in Human Life, Manners and Generosity, a Text for a Life-time, a Modern Dictionary, Physiognomy among the Greeks, New Articles of Faith, Elements of Success, a Beautiful Sentiment, Difficulties and Troubles, Selfishness and Conceit, Ambition, Riches and Money, Business, Idleness, Fortune, Enemies, Errors, Follies, Faults, Evils, Vice, Affectation, Variety, Learning, Intellectual Improvement, Observation, Conversation, Reading, Memory, Reflection, Thought, Resolution, Self-effort, Work, Opportunity, Love, Marriage, Source of True Happiness, Kindness, Good Nature, Benevolence, Contentment, Pleasure, Greatness, True Philosophy, Wisdom, The Bible, Religion, Sermons and Preaching, Truth, Sin, Repentance, Heaven and Hereafter, Purity, Christianity, Virtue, Conscience, Duty, Prayer, Faith, Hope, Charity, Horror, Sympathy, The Gentle Word, Time, Life, Death, Immortality, What makes a Man, Music, How to Live, Proverbs, At Last.

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MRS. L. A. JENKINS, M. D.,
DR. DIO LEWIS,
DR. A. G. HUMPHREY,
DR. A. L. WOOD, and
THE EDITOR.

This Number.—We are sure this number will be a delight to our subscribers, old and new.

Mrs. E. Oakes Smith's Story, which was promised this year, begins in this number. A few persons have written us that they hoped we would not print a story in THE HERALD, but we think they will change their minds before the end of the year, if they do not by the time they have read the January number. Our readers will see that it is in an entirely different vein from any thing before published. There is no reason why a health journal should not also enliven its pages with really entertaining and instructive stories, than a religious or political paper should. It will be our aim to secure only those of high merit and excellence.

We also commence in this number a series of papers entitled "Studies in Physiology." They will be from the writings of the great masters in this field, and alone will be worth more than the entire subscription price for the year. The article in this number is by Prof. Huxley.

We also call especial attention to a paper entitled, "The Dangers of Blistering." We believe it will prove of great interest and value to our readers.

Mrs. H. C. Birdsall, a new contributor, gives us this month some valuable hints on The Treatment of Children.

Mrs. Horace Mann has an excellent article on "Industrial Education;" Henry Ward Beecher one on "Generosity and Benevolence," and Mrs. Dr. Gleason one on "Baths for Babies." This paper will remind our readers that we have in press a work by Mrs. Gleason, entitled "Parlor Talks to Ladies," which will be ready in March, at which time we shall want lady agents in all the large cities to canvas for it.

We also call especial attention to Professor Maclaren's paper on The Law of Physical Growth, a paper full of sound truths.

The editorial "Topics of the Month," "Answers to Correspondents," and "How to Treat the Sick," will, we trust, make up a number which will satisfy all who read it. Reader, if you like this number, try and send us a few subscribers for this year.

Henry Ward Beecher's Paper.—See advertisement of The Christian Union on second page of cover. We will send this paper and THE HERALD OF HEALTH for one year for $3 50, to one address. The money and the name must both come at the same time.

Notice to Our Correspondents.—The following hints to correspondents should be observed in writing to us:

1. ALWAYS attach name, Post Office, County, and State to your letter.
2. SEND MONEY by Check on New York, or by Postoffice Money Order. If this is impossible, inclose Bills and register Letter.
3. CANADA AND NEW YORK CITY SUBSCRIBERS should send 12 *cents extra*, with which to prepay postage on subscriptions to THE HERALD OF HEALTH.
4. REMEMBER, if you are entitled to a Premium, to order it when you send the Club, and inform us how it is to be sent.
5. REMEMBER THAT WE NOW GIVE the *Empire Sewing Machine* as a premium. It is guaranteed to give good satisfaction.
6. REMEMBER TO SEND in Clubs early.
7. REMEMBER TO LOOK at our Premium List and Book List, and see exactly what we give and have for sale.
8. REMEMBER that for the names and addresses of 25 persons, either invalids or friends of Temperance and Health Reform, we give Prof. Wilson's book on the Turkish Bath. It contains 72 pages.
9. STAMPS should be sent to prepay postage on letters that require an answer.
10. Those who want a good *Spirometer*, *Parlor Gymnasium*, or *Filter* for making their water clean, will find the prices in another column.
11. INVALIDS from all parts of the country are invited to write to us for our circular, and full particulars as to Treatment or Board in the Hygienic Institution, See advertisement elsewhere.
12. See List of Books elsewhere.

The Picture of Humboldt.—We are now sending out the picture promised to our single subscribers for 1870, who send directly to the publishers $2. Lest there be a misunderstanding on the part of some, we state distinctly that those who take THE HERALD at club rates will not be entitled to it. The way to secure the picture is to send your money direct to the publishers.

What a Lecturer Thinks of The Herald.—Susan Everest, M. D., an able and popular lecturer on Health in Ohio, thus speaks of THE HERALD OF HEALTH: "THE HERALD OF HEALTH is a delight to all my subscribers, and I congratulate you upon your success in making a journal, devoted to the supposed dry topics of Health and Morals, as interesting as a romance."

Schoolday Visitor.—This bright and cheerful monthly for the young begins its fourteenth volume with the January number. The price is $1 25. See their advertisement on another page. We will send this monthly with THE HERALD OF HEALTH for $3.

Home Treatment.—Invalids wishing prescriptions for home treatment can have them for Five Dollars. They should send full particulars of their cases. Any person sending five new subscribers to THE HERALD OF HEALTH and Ten Dollars, will, if he does not choose other premiums, be entitled to a prescription for treatment free.

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Caution.—Our friends in writing to us will please be very particular and give Postoffice, County and State with every letter, and not depend on us to remember where they live, though they may have told us a hundred times. Those who think we can turn to our books and find their names and address without trouble, are quite mistaken.

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Clubs of Twenty-five.—Any person who will send us at one time twenty-five new subscribers to this monthly, shall have them for Twenty-five Dollars. Remember they must be new subscribers, and all be sent at one time.

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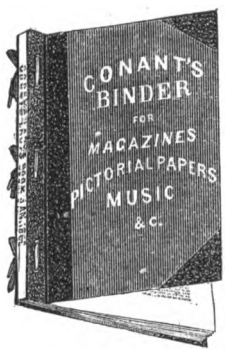

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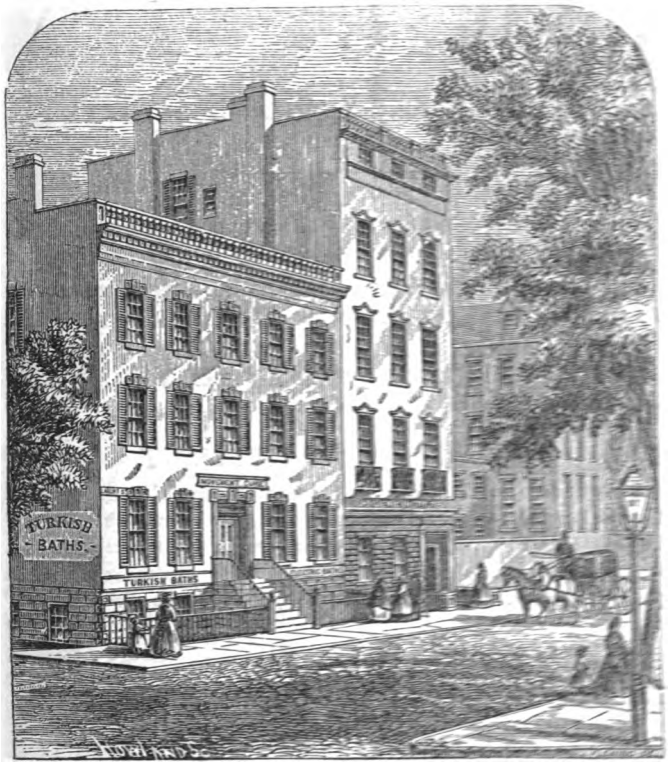

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It would be well if all the human race could have at least one Turkish Bath each week. It would conduce more to their happiness than any other one thing. Rely upon it, it is the *ne plus ultra* of baths.—*Dr. J. E. Westervelt, Richmond, Ind.*

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swered the Professor. "I believe that unshackled mind is capable of infinitely more than it now achieves."

"By 'unshackled' you mean unmarried, I suppose," retorted Cora.

"No, indeed, my love. We are all married some how and some way, in spite of ourselves."

"And you are married in your dream, I suppose, to Zalinka? And you may have her; I will have no part in a—a—what is the word?—there, now—what is it?"

"Thee would use a cruel, bad word, Cora. I am glad thee can not think of it."

The Professor had colored crimson at the speech of Cora, and then he cast his eyes down and grew very pale.

"Bigamist! that's the word," said Cora, with a little shout and most unbecoming laugh.

The Professor raised his eyes to her face in tender rebuke, and then smoothed her soft hair, so gently.

"Do you remember, sweetheart, that passage of Scripture that says, in some good time to come, that 'young men shall see visions, and old men dream dreams?' We must do the best we can in the world, and receive even ourselves as it has pleased God to make us."

"Oh dear, dear! I can see nothing in all you say; and you all make me feel as if I were good for nothing but to be called pretty, and be kissed, and all that."

"And it is a delight to look at your prettiness, and kiss the hem of your garment, my darling wife."

"There it is again. I suppose if I knew as much as you do, and could talk to make people open their eyes with wonderment, and be pretty too, you would love me as well as—as—you do Zalinka."

"Oh Cora! my precious wife, be yourself, nothing else, and do not, do not, I conjure you, talk in this way about my state of mind, which I can not myself define."

"You told me once I must tell you all my thoughts, and now you tell me I must hold my tongue;" and Cora bent her eyes upon her work.

The Professor arose, and walked back and forth across the room, with such a perplexed, troubled look that Sister Electa could not forbear saying,

"In our sect it is a belief that they who marry increase trouble, and though I would not, could not marry, it seems to me that two persons having thus a dear, acknowledged companionship might be very happy."

"There now, don't moralize; I am just a cross, jealous ninny. I know it, and George ought not to mind me. You promised, Sister Electa, to tell me all about the Shakers, and why you left them. Tell us, now do! You are so wise, and used to be so beautiful, I am sure."

"Sister Electa is now beautiful. She must have been beautiful as a young girl; she is beautiful in middle life; and she will be beautiful to the end of time," replied the Professor, with a warmth so unwonted to him that poor Cora opened her eyes in amazement, and Sister Electa's soft cheek turned to a rosy hue.

"Yes, I will tell thee about it. Thee remembers, George, good old Sister Sophia, who would not desert me, through all my life. She has gone to her long sleep; she folded her hands, and exhaled as a blossom would. Since I have seen thee and Cora, George, the images of my Shaker life come back to me with a not ungenial significance. I recall the period when I so willfully, so imperiously turned my back upon them, and they so gently yielded to my every humor."

"I have often wondered what could have induced you to leave those quiet retreats, which would seem so well adapted to a mind spiritual and serene like yours, Sister Electa."

A faint blush, a clear opening of the large, speaking eye, gave token of a negation to a part of this remark, but she replied,

"I link all the sections of my mind together and see a continuity in them; and yet, I, like the rest of the world I suppose, have found myself moving in eccentric lines totally unexpected to myself. When I scrutinize closely cause and effect, I see how naturally every apparent contradiction grew out of something which preceded it. It all seems a dream, as I look back."

"Goodness!" exclaimed Cora, "don't talk of dreams. I never want to hear of a dream again; though I used to run for the 'Dream Book' every morning, before I was married, to see what my dream meant."

"You have not ceased to dream, now you are married, I hope, little wife," said the Professor.

"It does not matter now, you know," she said; "but I am dying to hear all about Shakerdom. Tell us about the baby Shakers."

"I have a dim recollection of lying straight upon a hard mattress, with a long blue and white robe drawn tightly about my neck, and tucked under my feet. Then there was a stiff cap, standing like a barricade upon each side of my face, and confining my vision to a narrow

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Large evacuations by sweating may be employed more freely, and with less disadvantage to patients, than by any other secretion.—*Todd's Clinical Lectures.*

I was much benefited, and in fact virtually cured of my lumbago by a single bath.—*Chas. A. Lee, M. D., Professor of Materia Medica and Hygiene in University of Buffalo.*

I find the bath highly tonic, and the rule with me is to put the weak people in often as I find that the action of temperature is favorable to growth and nutrition.—*Dr Richard Barter, St. Ann's Hill, Ireland.*

Its effects are most remarkable in obviating disorders and palliating diseases of the liver and kidney—the passage of gall-stones, and the relief of liver obstruction occurring immediately on the use of the bath.—*Sir John Fife.*

Gout, rheumatism, neuralgia, are said to be unknown among the Turks, and this exemption is probably as much due to the free action of the skin, caused by the bath, as to their temperate habits.—*Dr. Leared, in London Lancet.*

Pain and ache vanish, as if by magic, in the bath. By placing the body in a better condition to use its own resources against disease, it is serviceable in every case. It has become a question with me, not what the bath will cure, but what it will not cure.—*Dr. Brereton.*

Perspiration is the safety-valve of the heart, the sewer for the secretions, the scavenger of the skin. The bath promotes perspiration, and while it strengthens the laborious for toil, it serves in the place of bodily exercise for the sedentary.—*Dr. C. H. Shepherd.*

Where the bath is the practice of the people, there are no diseases of the skin. All cases of inflammation are subdued. Gout, rheumatism sciatica, or stone can not exist where it is conscientiously and sedulously employed as a curative means. As to consumption, that scourge of England, that pallid specter which sits by every tenth domestic hearth, among the highest orders, it is not only unknown where the bath is practiced, but is curable by its means.—*Dr. David Urquhart.*

In the bath the skin acquires color, freshness, firmness, and elasticity; it loses the muddy and faded hues of ill-health, and the parched and arid dryness and wrinkled aspect of infirmity and age. The inhabitant of a large city would live as healthily immured within his city walls as amid the fields and meadows of the country. His bath would be to him in the place of a country house, of a horse—it would give him air exercise, freshness, health, and life. ... The bath which cleanses the inward as well as the outward man, which is adapted to make health healthier, and alleviate disease, whatever its stage or severity, and merits the advocacy of all men.—*Erasmus Wilson, M. D., F. R. S.*

Half of our diseases originate in a sudden change of temperature; colds, rheumatism, pleurisy, catarrhal and inflammatory fevers, are ordinarily the disastrous consequences. The Turkish Bath, promptly and properly used, will not only cure the slightest indisposition coming from colds, but will also prevent the more serious maladies. I have often been materially assisted in curing chronic diseases, such as dropsy, sciatica, hip disease, scrofula in its various forms, by having baths given in such manner as to restore the skin to a healthy state. The lassitudes and painful sensations in the limbs and spine, following violent bodily and mental exertion, are immediately cleared away by this bath. I consider the use of the Turkish Bath of the utmost benefit, as a hygienic means, for the preservation of health and prevention of disease, by cleansing the skin and making it less susceptible to the continual atmospheric changes incident to our climate.—*W. B. Chamberlain, M. D., Worcester, Mass.*

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children of the village school, but to my unaccustomed eyes they were demons.

"I watched these young imps, dumb with horror, expecting every moment they would clutch me. They grew more violent, and began to pelt me with stones; and then what do you think I did?"

"I suppose you jumped down, and tore out their eyes, and pulled their hair, and screeched and screamed. I know that is the way I should have served them." This from Cora.

"What does thee think I did, George?" asked the Shaker, with a placid smile, her clear eyes looking, wondrously bright, straight into the face of the Professor.

"I can hardly tell, Electa; but I think you said 'Please don't,' or something the like."

"There now, George, she is not quite such a flat as that!" cried Cora, playfully boxing his ears.

"Neither of thee is right," answered Electa. "I stuck out my lips at them!" and she said this with *such* a girlish blush, that Cora laughed merrily, and the Professor raised his brows, and smiled, saying,

"I did not think of that!"

"How should any body think of any thing so absurd! I stood there alone on the great rock, protruding my under lip at them until it ached with the effort. I jerked out my neck; I drew in my lip, and wet it with my tongue, and stuck it out again at my tormentors, till the pain became intolerable. How they did scream and kick up their heels and pelt me with turf and stones! Thee can not realize what an experience this was to a child such as I was, and one so serenely trained."

At this moment Mrs. Pyncham opened the door and walked in with a sort of ill-used lady air, glancing around and making her greetings as if expecting a rebuke or rebuff, and resigned to her fate, whatever it might be.

"Good morning, my poor child. You are flushed; I hope not feverish." This with a touch of her thin lips upon the cheek of Cora.

"Good morning, Mrs. Electa; I did not know that you would be permitted to visit my poor Cora; old men with young wives are so exacting; but I dare say all is for the best, though we do not see it now."

The Professor rose and presented a chair to the mother of his wife. "Good morning, Mr. Lyford; I am sure you need not trouble yourself to get a chair. I never claim any civilities at your hand. No, thank you, I shall not stay. I just stepped in, Cora, to see how you get along."

"Oh, George and I made it up long ago, Mother. Don't you worry."

"I know, Cora, your mother's opinion, or your mother's advice is of little value to you now; but the time may come when you will recall it all, and wish then that you had treated it with more respect."

"There now, don't croak, Mother; you have interrupted such a nice story. Sister Electa was telling all about the Shakers."

"I am well aware, Cora, that my visits are unwelcome. I know it, and feel it most painfully, but I shall come, my child; it is my duty to do so, and I shall come."

The Professor reddened slightly; and then he took a Greek book from the table and began to read.

"Let me take thee's bonnet; thee is tired and troubled," and Sister Electa untied the strings with a gentle hand.

"I did come to stay, but seeing myself unwelcome, I was about to change my mind," said the Widow Pyncham.

"You said you would not stop, and I thought you meant it. I am sure, you know, Mother, George and I are always glad to see you."

"I should hope my child is; my child, for whom I have toiled and struggled so much." This with a sigh and a resignation of bonnet and face at the same time, and a dagger glance at the simple-hearted Professor. She resumed,

"But I interrupted you all; it would be better for me to go. I see and feel that I am in the way."

"Well there! then go, if you can not come with any thing pleasant. I am tired of fault-finding," cried Cora, half crying, and putting her elbow upon the shoulder of her husband.

"It would be better for you to be tired of the doings in your kitchen, where there is enough wasted to keep two families," retorted the widow, adjusting the fingers of her mits, every finger of which had been turned inside out, and required a world of fixing.

CHAPTER VI.

The Professor Doubts, Exults.

"MRS. PYNCHAM," writes the Professor, "is a very uncomfortable person, and always makes me feel, when under her eye, as if I must have been guilty of some atrocious conduct at some time, which she is bent upon ferreting out. She walks into the house and takes Cora to task in a very absurd way. It is true, in one thing she is quite right: household

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matters do not seem to work well, and I have to now and then urge my poor little wife to institute a reform, which does not please her. I could wish also that Cora would not speak so petulantly as she often does, but I am an unreasonable blockhead for expecting so much of a pretty woman. It may be that the age belongs to them, the women, and they feel that it does, and determine to make us pay well for our privileges and comforts. I do not see where it will all end, but surmise that we men are to be a subjugated sex; indeed, we are sinking under the sway of the Amazons, and before many generations the women will hurl back upon us all the boy babies to train and support, while they will keep the girl babies to train up in their own way. Then, to be sure, the boys will be trained to fight them with a good will, and we men will make the women pay for our good fellowship.

"Ah me! I hope I shall never live to witness this transformation of society! I should stand but a poor chance with these fervid, exacting, self-reliant creatures! A pretty figure I should cut, when one of them should happen to cast a covetous eye upon me, and think to appropriate me for the time being! She would need be soft as velvet, and sweet as sugar, or I should, as Shakspeare says, 'crack the gorge,' and reject, and spurn her approaches. Dear! dear me! what are we all coming to? I will no more speculate upon the possible future, but make myself content in the present.

"I find myself exceedingly happy of late, so happy, that my little household troubles and defects do not in the least wear upon me. I believe if Cora should become altogether unlovely, I should still regard her with great tenderness and forbearance, because of this internal content, this fountain of youth and joy, welling up from the deep chambers of my being, and overflowing, as it were, to impart blessedness to all within the sphere of its influence.

"I impute much of this to my dream-life, which, I find myself under many petty cares falling back upon, as if to say, 'I have bread ye wot not of.' It seems to me that even in that old imperfect civilization, with its ancient, cumbrous worship, there was more to stimulate the soul than in the hacknied platitudes of our day, with our gaudy luxury and tiresome routine.

"I am not a sensual man, but I feel an indescribable thrill of delight at each recurrence of my dream, linked together as it is; not a mesh lacking, not a word, not a gesture of the beautiful Zalinka lost to my mind. I spring elastic to the task of the day; I hear the clear tones of the young men at their daily recitations, and feel my blood is younger than theirs. I read lessons with an intuitive sense of the beauty of language unknown in the years that are past. Ponce De Leon and the old mystics must have had visions akin to mine, which they dared not divulge to a cruel, bigoted, and superstitious age.

"I confess it, I long for a recurrence of my dreams. I long, as a fervid lover longs for the presence of his mistress, so do I long for a renewal of my life with the soul-inspiring Zalinka.

"'Sleep, O beloved Teomax!' I repeat a hundred times a day.

"Then I become casuistical, and ask myself, Is this the faithfulness promised at the marriage altar? Am I blameless, I, who grow daily enraptured with the Beauty of my dreams? Were the old Saints and Martyrs subjected to like visions, which they rejected as visitations from the Father of Lies, while I yield myself to them, with, it may be, a deadly fascination? They scourged the outer man with torturing whips, and lay down in sackcloth; fasted and prayed, and confessed, and their confessions are as deluding as the visions they relate, while I spring exultant to life and duty, and human love and human sympathy, because of the full goblet I hold to my enraptured lips. Is it the starved soul that sins? do we rush into evil because the life has no aliment for its myriad of attributes? Give us enough to fill up the whole being, to satisfy its aspirations, its illimitable love for all that is beautiful, its fathomless pity for all that is evil, and the 'I am' would be as a living presence; and again and again I heard the soft voice whisper,

"'Sleep, O beloved Teomax!'

"And I seized my pen and wrote the following sonnet, I, who am no poet, and in the times that are past have been guiltless of a single rhyme.

SONNET.

Press down my lids with kisses; let them fall
  As falls the rain upon the quivering vine,
  Giving a foretaste of the coming wine.
Mescems mine orbs another sphere recall
Where birds all day to their sweet matelings
    call,
  And blooms perennial glow in summer shine,
  And holiest love makes all the year divine:
For Life is Love, and Love is all in all.
  Thy kisses steal my soul away, dear heart,
And we together thread a crystal street
  Begirt with shade of overhanging pine;
  And I, withouten sight, save where thou art,

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Glide o'er the golden way with swimming feet
And nothing know save that thine arms entwine.

"A poet must be the happiest of God's happy creatures, being subjected to less impediment than other mortals. How tame, how insipid love-making seems, when unspoken by poetry! How like the cackle of poultry and the screaming of daws compared to the soul-full nightingale, and the capricious, untiring mocking-bird! Women and men are far lovelier, better, and higher-created, than they ever seem to realize."

The Professor slipped the unlucky sonnet between the sheets of his next lecture, for Cora entered the room on tiptoe, looking quite charmingly in her fresh morning-wrapper; her bright, abundant hair tied in a loose knot at the back of her head.

"I saw you, I did; you sly old boy! You hid something away, and your cheeks are all flushed up. Let me see what you have been writing; you know I always read your lectures."

"Certainly, my love; you shall see it," and he produced the lines with a half-sheepish look.

"Dear me! Upon my soul! who would have thought it?"

These and similar exclamations escaped the lips of Cora as she read; and then she pressed the edge of the paper thoughtfully against her red lips and looked away, with her eyebrows slightly raised, more thoughtful than petulant.

"Tell me your thoughts, pretty one," said her husband.

"George, did you ever write poetry before you began to dream?"

"Never till now, darling; if it is poetry."

"Did you write that to Zalinka, or to me?"

"Cora, dearest, do not talk in that way. Am I less loving now than before my dreaming, Cora?"

"It seems to me you are not quite the same, George. Sometimes I shrink from you, as though you were not the same very dear old George."

"But it is the 'same dear old George,' Cora, who loves you with all his heart."

"No, George, dear; not with all your heart. There is something more than Cora there."

"A revelation"——

Cora laid her hand upon his lips, "Now, don't talk that, you know I don't understand it, and I get muddled, and wish you were only more like other people."

"How, Cora?"

"Well, I wish you told stories, and laughed, and loved the cows and the chickens, and whistled, and said your prayers solemn-like, and believed in the minister, and would get cross and scold and make it up again, and feel proud about your new hat, and trousers, and my new bonnet," and Cora burst into a laugh at her own description, with tears wet upon her eyelashes.

"Well, darling, you might have all that in Paul Steers, our mill-boy neighbor."

Cora put a little, tender, wifely, girlish slap upon her husband's cheek, and pouted, and laughed, and said,

"That is a bright young man, George. Did you ever notice how smart he is?"

"I think very much of him, dear; but I must go to my class. Good morning, love!" and, with a kiss, he was soon to be seen going across the green lawn, under the whispering pines, in the direction of the College.

Cora watched his retreating figure with a sigh, and hoped he would turn back and kiss his fingers to her, but he did not—only walked away musingly, with his head upon his breast, as if in deep thought.

"I have no doubt he is thinking of Zalinka," she murmured.

In the evening, when the Professor took his seat by the shaded lamp, and a Greek book in his hand, Cora pushed the latter aside, saying,

"Don't you want to hear Sister Electa tell how she got down from the great rock?"

"Assuredly, my dear," replied the Professor, who could not but like the ready speech and enthusiasm of this child-woman, who had at the moment entered the room. The placid face, and clear, harmonizing voice of Sister Electa were enough to infuse a cheerful content anywhere, while the very essence of purity sat perched upon her plain white cap, that rather embellished than hid her rich folds of brown hair. It must have been that a troop of those lively imps that keep the flowers from defilement, and the bird's wing from dust, were constantly hovering about Sister Electa, whose fresh dress, always like the perfume of linen bleached upon the green grass, was never known to harbor "a speck of dirt."

The Professor's face brightened as he noted in his quiet way this wholesome completeness in the person of Sister Electa, and he waited till she had adjusted her knitting-work. She, after having pinned a "knitting sheath" to her side, and placed the point of the needle therein, with the thread daintily thrown over the little finger

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and round the first, began that series of movements which seem to the uninitiated but an idle click of two points of steel, but would result in the production of a pair of warm blue stockings for the Professor, with white toes, as is generally thought advisable in New England, thus replied.

CHAPTER VII.

A Shaker Child Sick unto Death.

"I NEVER knew in what way I was released from the great rock and my young tormentors; nor how long I performed the operation of sticking out my lips at them, for my next period of consciousness found me lying stiff upon my little mattress, and Sister Sophia sitting by me in the twilight, with a pointed elbow thrust into the palm of either hand, and her great cold gray eyes fixed upon my face. Ever and anon she would lift up my head and hold a bowl of pennyroyal tea to my lips, and then put my head back again upon the pillow, as if it had been a ball of yarn. Then she would put her two feet upon the rungs of the straight-backed chair, readjust her elbows in the palms of her hands, and fix her eyes again upon my face."

"Mercy! gracious me!" cried Cora; "I should have gone wild."

"I did not know what was the matter with me," resumed Sister Electa, "but I in turn kept my eyes fixed upon hers, although their still, cold, changeless look made me shudder from head to foot. Sometimes she was Sister Sophia; sometimes she was a gray cat, whose loud purring made me half deaf; sometimes she was a clock, and I wished she would stop that heavy tick, tick, which made my poor little heart beat as if it would burst my bosom. I crawled down under the sheets and held them tight with teeth and hands. Then I heard the water pouring over the mill-wheel, and the birds singing in the branches of the trees.

"Then I thought I was lifted up in the air, and such a crowd of beautiful children came to me! They held out their hands and smiled, and called me a lovely name which I could never recall. Then I opened my eyes, and what do you think I saw?"

"Now you will never guess, George; nor I, either; so do tell us, Sister Electa, so as to keep up the story." This from Cora.

Sister Electa busied herself with her knitting-work, readjusting the sheath at her side, and gave a faint sigh before she went on.

"Sister Sophia had taken me in her arms, and was holding me to her poor, wasted bosom, weeping and sobbing as if her heart would break; and there were the Elders, and the pale sisterhood, all seated around in stiff, high-backed chairs, and each and all were striking the right hand, the fingers doubled up, into the palm of the left hand; their eyes fixed upon the ceiling of the room, and singing in a high voice a little song of the Order."

"Oh sing it, Sister Electa; sing the song just as the Shakers do," cried Cora.

"It will only make thee laugh, Cora; but I will do so to please thee," and she sang the following words in a high key, but with a voice so clear, so sympathetic, and bird-like, that Cora, so far from laughing, bent down her head with tears in her eyes.

"Home, home to the angels go;
This is no place for thee;
Home, home, where the rivers flow,
Like amber to the sea.
We will not hold thee here,
Oh take her, Mother dear!

"Home, home to the house above,
Where chambers fitting be,
And arms of heavenly love
Are all outstretched for thee.
Sweet Mother, tender, mild,
Take home this little child."

The soft, clear voice of Sister Electa ceased, and old memories so stirred at her heart that the tears were tremulous in eye and voice. At length she went on.

"It was evident that they thought me dying, and I was so happy, so content, such lovely looks of lovely children gathering about me, that I was willing to go. Child as I was, the picture of the stern Elders with their upturned faces, of the pale sisters with tears streaming down their cheeks, produced a profound impression upon my mind, and in after years I was able to comprehend the volume of irrepressible tenderness, which smouldered under their stern creed, the soul of the human crying mightily for utterance."

"How unlike you are to any thing I ever imagined you to be, Sister Electa," said the Professor, musingly.

"A woman is not easily read any way," said Cora.

"Thee has said a wiser thing than thee is aware of," Sister Electa answered. "A woman reads a man far easier than a man can read a woman."

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FEBRUARY, 1870.

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VOL. 15, No. 2.] NEW YORK, FEBRUARY, 1870. [NEW SERIES.

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THE TWO WIVES.

BY MRS. ELIZABETH OAKES SMITH.

CHAPTER V.

CORA ILL AT EASE—A SHAKER BABY.

WE left the Professor talking with Cora, when he was suddenly plunged into the land of reminiscent shadows. She half arose from her seat, for she remarked that strange weird expression of face that stole over it at such periods, but the unconsciousness was only momentary, although, as we have seen, his experience was protracted and not devoid of perils. The Professor opened his eyes smilingly to find Cora's close to his own, with a strained, eager expression upon them.

"You dreamed of Zalinka again, George."

"Why do you think so, Cora? Did I sleep long?"

"Why do I think so? Because your face grew so young."

He laughed pleasantly and said, "I shall need dream a long while to make my face as young as yours."

But Cora looked grave, and then took up her embroidery. Sister Electa crossed the room, and put her hand softly upon the shoulder of the young wife.

"Something troubles thee, Cora. Will thee not tell me what it is?"

"I do not quite know. Ask George," and she pushed a cushion from under her feet, petulantly.

"Cora does not like to have me dream; as though it were a thing dependent upon the will!" he replied.

"I think any girl would dislike to have her lover cry out in sleep, 'Zalinka, beautiful Zalinka!' and her own name plain Cora."

Sister Electa's smile was electric, "Did thee really so cry out in sleep, George? And does thee remember thee's dream?"

"Most assuredly he does."

"And thee is jealous of a dream-love, Cora!"

"Yes, I am. If I had my way, my husband should never dream."

"Suppose he were a poet?"

"Thee knows he is not," and Cora gave a bad emphasis to the pronoun.

"I believe we are all poets at the best," an-

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swered the Professor. "I believe that unshackled mind is capable of infinitely more than it now achieves."

"By 'unshackled' you mean unmarried, I suppose," retorted Cora.

"No, indeed, my love. We are all married some how and some way, in spite of ourselves."

"And you are married in your dream, I suppose, to Zalinka? And you may have her; I will have no part in a—a—what is the word?—there, now—what is it?"

"Thee would use a cruel, bad word, Cora. I am glad thee can not think of it."

The Professor had colored crimson at the speech of Cora, and then he cast his eyes down and grew very pale.

"Bigamist! that's the word," said Cora, with a little shout and most unbecoming laugh.

The Professor raised his eyes to her face in tender rebuke, and then smoothed her soft hair, so gently.

"Do you remember, sweetheart, that passage of Scripture that says, in some good time to come, that 'young men shall see visions, and old men dream dreams?' We must do the best we can in the world, and receive even ourselves as it has pleased God to make us."

"Oh dear, dear! I can see nothing in all you say; and you all make me feel as if I were good for nothing but to be called pretty, and be kissed, and all that."

"And it is a delight to look at your prettiness, and kiss the hem of your garment, my darling wife."

"There it is again. I suppose if I knew as much as you do, and could talk to make people open their eyes with wonderment, and be pretty too, you would love me as well as—as—you do Zalinka."

"Oh Cora! my precious wife, be yourself, nothing else, and do not, do not, I conjure you, talk in this way about my state of mind, which I can not myself define."

"You told me once I must tell you all my thoughts, and now you tell me I must hold my tongue;" and Cora bent her eyes upon her work.

The Professor arose, and walked back and forth across the room, with such a perplexed, troubled look that Sister Electa could not forbear saying,

"In our sect it is a belief that they who marry increase trouble, and though I would not, could not marry, it seems to me that two persons having thus a dear, acknowledged companionship might be very happy."

"There now, don't moralize; I am just a cross, jealous ninny. I know it, and George ought not to mind me. You promised, Sister Electa, to tell me all about the Shakers, and why you left them. Tell us, now do! You are so wise, and used to be so beautiful, I am sure."

"Sister Electa is now beautiful. She must have been beautiful as a young girl; she is beautiful in middle life; and she will be beautiful to the end of time," replied the Professor, with a warmth so unwonted to him that poor Cora opened her eyes in amazement, and Sister Electa's soft cheek turned to a rosy hue.

"Yes, I will tell thee about it. Thee remembers, George, good old Sister Sophia, who would not desert me, through all my life. She has gone to her long sleep; she folded her hands, and exhaled as a blossom would. Since I have seen thee and Cora, George, the images of my Shaker life come back to me with a not ungenial significance. I recall the period when I so willfully, so imperiously turned my back upon them, and they so gently yielded to my every humor."

"I have often wondered what could have induced you to leave those quiet retreats, which would seem so well adapted to a mind spiritual and serene like yours, Sister Electa."

A faint blush, a clear opening of the large, speaking eye, gave token of a negation to a part of this remark, but she replied,

"I link all the sections of my mind together and see a continuity in them; and yet, I, like the rest of the world I suppose, have found myself moving in eccentric lines totally unexpected to myself. When I scrutinize closely cause and effect, I see how naturally every apparent contradiction grew out of something which preceded it. It all seems a dream, as I look back."

"Goodness!" exclaimed Cora, "don't talk of dreams. I never want to hear of a dream again; though I used to run for the 'Dream Book' every morning, before I was married, to see what my dream meant."

"You have not ceased to dream, now you are married, I hope, little wife," said the Professor.

"It does not matter now, you know," she said; "but I am dying to hear all about Shakerdom. Tell us about the baby Shakers."

"I have a dim recollection of lying straight upon a hard mattress, with a long blue and white robe drawn tightly about my neck, and tucked under my feet. Then there was a stiff cap, standing like a barricade upon each side of my face, and confining my vision to a narrow

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patch of the white ceiling above my head, and never moving hand or foot, as if I already comprehended the decorums of the Order. I was a Shaker baby in the full sense—straight, still, sober."

"Poor little baby!" exclaimed Cora; "your mother died, and your father gave you to the Shakers, didn't he?"

The Professor looked shocked at this blunt method of reaching the fact, but the gentle Shaker answered firmly,

"Yes, dear Cora; I must have been greatly wronged, as a child, by my father; peace to his ashes!"

"Tell me more, Sister Electa," said Cora, like a spoilt child. By this time she had beckoned the Professor to seat himself beside her, and leaned her head upon his shoulder. Electa continued.

"I had strange thoughts in those days, but my deepest consciousness was an undefined terror lest I should break loose."

"Splendid!" cried Cora.

"Yes, and I think I have never lost the feeling. I have been a silent woman, mostly, for our sect admits of no redundancy of words. Even as a child, I used to listen to the outpourings of some of our fervid speakers, with a feeling that I must rise and pour out my soul in a sort of rapture."

"Why, I had never imagined such a thing in you," said the Professor, opening his eyes in unfeigned astonishment. "You have the temperament of genius; it is a pity you have not its expression."

"Nay, nay. The poetry of the soul ought to be carried into the action of the life, George. It was never designed for mere book-making, and in the better days will cease to be thus converted.

"How long I remained stretched upon my little mattress, never tumbling my starched robe, or crumpling my cap, it is impossible for me to say. I must have committed the indecorum of a kick."

This was so demurely uttered that her auditors burst into a merry laugh, at which she also smiled, in her serene way, and went on.

"I was unconscious of the offense, and must pass to the next stage in the experience of a Shaker child. I had found my feet, and was walking demurely about in a pair of little high-heeled shoes, with broad straps, clatter, clatter, clatter, staidly up stairs, staidly down—the properest behaved child in all Shakerdom. I never ran after the chickens, but walked them out of doors, clatter, clatter, with the utmost gravity. I never pinched the kitten, nor streaked the window-pane with a wet finger, or scratched the white table with a pin, but was from the first perfectly correct, and have ever since been so tame, so stupid, so correct, that I am ashamed of myself."

The Professor rubbed his hands. "Upon my word, Sister Electa, who would have thought it! Dear me! you always seemed so different; I had no idea of it! Dear me!".

"There now, George; what is the matter?" cried Cora, with an undefined feeling of uneasiness.

The placid Shaker smiled with a grotesque humor, and went on.

"To a child who has known this unending, silent routine, who has seen nothing but still, pale faces, subdued to a pensive sadness, a walk beyond the limits of the premises is an event. I often stood dreamily in the door-way, watching a huge rock, an antediluvian boulder, seamed by friction and moss-grown with age, which jutted forth a shoulder at an angle of the wood, verging the highway. I saw heavy wains of hay lumber and creak along the road, and disappear behind the great rock; the birds quickened their flight as they neared the great rock, and were lost in the blue beyond; cattle in the nooning sought the shelter of the great rock. It grew to be invested with mystery in my young eyes, and all the world of enchantment lay beyond.

"One day my little heels ventured farther and farther from the familiar precincts, and by slow, toilsome steps neared the great rock. I looked neither to the right or the left till I had reached the summit, for thee must know, that one side of the boulder was buried in the ground, and being covered with grass was of comparatively easy ascent. When I had reached the top, I looked about me. My poor, unaccustomed eyes to such loveliness were ravished at the sight. There was a clear, smooth lake; at its outlet a mill, whose revolving wheel was like a sheet of molten silver, or a cataract of diamonds. I saw people coming and going in bright, beautiful robes. Cora, I thought I must be dreaming; I thought perhaps I had reached one of the thoroughfares to the Gate Beautiful, and that soon Heaven itself would open its portals to me.

"While I stood thus entranced, I became gradually conscious of a group of creatures at the foot of the rock, who shouted aloud, danced, screamed, and kicked up their naked feet in the air, and showed little wild, distorted faces, such as I imagined devils must have. They were the

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children of the village school, but to my unaccustomed eyes they were demons.

"I watched these young imps, dumb with horror, expecting every moment they would clutch me. They grew more violent, and began to pelt me with stones; and then what do you think I did?"

"I suppose you jumped down, and tore out their eyes, and pulled their hair, and screeched and screamed. I know that is the way I should have served them." This from Cora.

"What does thee think I did, George?" asked the Shaker, with a placid smile, her clear eyes locking, wondrously bright, straight into the face of the Professor.

"I can hardly tell, Electa; but I think you said 'Please don't,' or something the like."

"There now, George, she is not quite such a flat as that!" cried Cora, playfully boxing his ears.

"Neither of thee is right," answered Electa. "I stuck out my lips at them!" and she said this with *such* a girlish blush, that Cora laughed merrily, and the Professor raised his brows, and smiled, saying,

"I did not think of that!"

"How should any body think of any thing so absurd! I stood there alone on the great rock, protruding my under lip at them until it ached with the effort. I jerked out my neck; I drew in my lip, and wet it with my tongue, and stuck it out again at my tormentors, till the pain became intolerable. How they did scream and kick up their heels and pelt me with turf and stones! Thee can not realize what an experience this was to a child such as I was, and one so serenely trained."

At this moment Mrs. Pyncham opened the door and walked in with a sort of ill-used lady air, glancing around and making her greetings as if expecting a rebuke or rebuff, and resigned to her fate, whatever it might be.

"Good morning, my poor child. You are flushed; I hope not feverish." This with a touch of her thin lips upon the cheek of Cora.

"Good morning, Mrs. Electa; I did not know that you would be permitted to visit my poor Cora; old men with young wives are so exacting; but I dare say all is for the best, though we do not see it now."

The Professor rose and presented a chair to the mother of his wife. "Good morning, Mr. Lyford; I am sure you need not trouble yourself to get a chair. I never claim any civilities at your hand. No, thank you, I shall not stay. I just stepped in, Cora, to see how you get along."

"Oh, George and I made it up long ago, Mother. Don't you worry."

"I know, Cora, your mother's opinion, or your mother's advice is of little value to you now; but the time may come when you will recall it all, and wish then that you had treated it with more respect."

"There now, don't croak, Mother; you have interrupted such a nice story. Sister Electa was telling all about the Shakers."

"I am well aware, Cora, that my visits are unwelcome. I know it, and feel it most painfully, but I shall come, my child; it is my duty to do so, and I shall come."

The Professor reddened slightly; and then he took a Greek book from the table and began to read.

"Let me take thee's bonnet; thee is tired and troubled," and Sister Electa untied the strings with a gentle hand.

"I did come to stay, but seeing myself unwelcome, I was about to change my mind," said the Widow Pyncham.

"You said you would not stop, and I thought you meant it. I am sure, you know, Mother, George and I are always glad to see you."

"I should hope my child is; my child, for whom I have toiled and struggled so much." This with a sigh and a resignation of bonnet and face at the same time, and a dagger glance at the simple-hearted Professor. She resumed,

"But I interrupted you all; it would be better for me to go. I see and feel that I am in the way."

"Well there! then go, if you can not come with any thing pleasant. I am tired of fault-finding," cried Cora, half crying, and putting her elbow upon the shoulder of her husband.

"It would be better for you to be tired of the doings in your kitchen, where there is enough wasted to keep two families," retorted the widow, adjusting the fingers of her mits, every finger of which had been turned inside out, and required a world of fixing.

CHAPTER VI.

The Professor Doubts, Exults.

"MRS. PYNCHAM," writes the Professor, "is a very uncomfortable person, and always makes me feel, when under her eye, as if I must have been guilty of some atrocious conduct at some time, which she is bent upon ferreting out. She walks into the house and takes Cora to task in a very absurd way. It is true, in one thing she is quite right: household

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matters do not seem to work well, and I have to now and then urge my poor little wife to institute a reform, which does not please her. I could wish also that Cora would not speak so petulantly as she often does, but I am an unreasonable blockhead for expecting so much of a pretty woman. It may be that the age belongs to them, the women, and they feel that it does, and determine to make us pay well for our privileges and comforts. I do not see where it will all end, but surmise that we men are to be a subjugated sex; indeed, we are sinking under the sway of the Amazons, and before many generations the women will hurl back upon us all the boy babies to train and support, while they will keep the girl babies to train up in their own way. Then, to be sure, the boys will be trained to fight them with a good will, and we men will make the women pay for our good fellowship.

"Ah me! I hope I shall never live to witness this transformation of society! I should stand but a poor chance with these fervid, exacting, self-reliant creatures! A pretty figure I should cut, when one of them should happen to cast a covetous eye upon me, and think to appropriate me for the time being! She would need be soft as velvet, and sweet as sugar, or I should, as Shakspeare says, 'crack the gorge,' and reject, and spurn her approaches. Dear! dear me! what are we all coming to? I will no more speculate upon the possible future, but make myself content in the present.

"I find myself exceedingly happy of late, so happy, that my little household troubles and defects do not in the least wear upon me. I believe if Cora should become altogether unlovely, I should still regard her with great tenderness and forbearance, because of this internal content, this fountain of youth and joy, welling up from the deep chambers of my being, and overflowing, as it were, to impart blessedness to all within the sphere of its influence.

"I impute much of this to my dream-life, which, I find myself under many petty cares falling back upon, as if to say, 'I have bread ye wot not of.' It seems to me that even in that old imperfect civilization, with its ancient, cumbrous worship, there was more to stimulate the soul than in the hacknied platitudes of our day, with our gaudy luxury and tiresome routine.

"I am not a sensual man, but I feel an indescribable thrill of delight at each recurrence of my dream, linked together as it is; not a mesh lacking, not a word, not a gesture of the beautiful Zalinka lost to my mind. I spring elastic to the task of the day; I hear the clear tones of the young men at their daily recitations, and feel my blood is younger than theirs. I read lessons with an intuitive sense of the beauty of language unknown in the years that are past. Ponce De Leon and the old mystics must have had visions akin to mine, which they dared not divulge to a cruel, bigoted, and superstitious age.

"I confess it, I long for a recurrence of my dreams. I long, as a fervid lover longs for the presence of his mistress, so do I long for a renewal of my life with the soul-inspiring Zalinka.

"'Sleep, O beloved Teomax!' I repeat a hundred times a day.

"Then I become casuistical, and ask myself, Is this the faithfulness promised at the marriage altar? Am I blameless, I, who grow daily enraptured with the Beauty of my dreams? Were the old Saints and Martyrs subjected to like visions, which they rejected as visitations from the Father of Lies, while I yield myself to them, with, it may be, a deadly fascination? They scourged the outer man with torturing whips, and lay down in sackcloth; fasted and prayed, and confessed, and their confessions are as deluding as the visions they relate, while I spring exultant to life and duty, and human love and human sympathy, because of the full goblet I hold to my enraptured lips. Is it the starved soul that sins? do we rush into evil because the life has no aliment for its myriad of attributes? Give us enough to fill up the whole being, to satisfy its aspirations, its illimitable love for all that is beautiful, its fathomless pity for all that is evil, and the 'I am' would be as a living presence; and again and again I heard the soft voice whisper,

"'Sleep, O beloved Teomax!'

"And I seized my pen and wrote the following sonnet, I, who am no poet, and in the times that are past have been guiltless of a single rhyme.

SONNET.

Press down my lids with kisses; let them fall
As falls the rain upon the quivering vine,
Giving a foretaste of the coming wine.
Meseems mine orbs another sphere recall
Where birds all day to their sweet matelings call,
And blooms perennial glow in summer shine,
And holiest love makes all the year divine:
For Life is Love, and Love is all in all.
Thy kisses steal my soul away, dear heart,
And we together thread a crystal street
Begirt with shade of overhanging pine;
And I, withouten sight, save where thou art,

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Glide o'er the golden way with swimming feet
And nothing know save that thine arms entwine.

"A poet must be the happiest of God's happy creatures, being subjected to less impediment than other mortals. How tame, how insipid love-making seems, when unspoken by poetry! How like the cackle of poultry and the screaming of daws compared to the soul-full nightingale, and the capricious, untiring mocking-bird! Women and men are far lovelier, better, and higher-created, than they ever seem to realize."

The Professor slipped the unlucky sonnet between the sheets of his next lecture, for Cora entered the room on tiptoe, looking quite charmingly in her fresh morning-wrapper; her bright, abundant hair tied in a loose knot at the back of her head.

"I saw you, I did; you sly old boy! You hid something away, and your cheeks are all flushed up. Let me see what you have been writing; you know I always read your lectures."

"Certainly, my love; you shall see it," and he produced the lines with a half-sheepish look.

"Dear me! Upon my soul! who would have thought it?"

These and similar exclamations escaped the lips of Cora as she read; and then she pressed the edge of the paper thoughtfully against her red lips and looked away, with her eyebrows slightly raised, more thoughtful than petulant.

"Tell me your thoughts, pretty one," said her husband.

"George, did you ever write poetry before you began to dream?"

"Never till now, darling; if it is poetry."

"Did you write that to Zalinka, or to me?"

"Cora, dearest, do not talk in that way. Am I less loving now than before my dreaming, Cora?"

"It seems to me you are not quite the same, George. Sometimes I shrink from you, as though you were not the same very dear old George."

"But it is the 'same dear old George,' Cora, who loves you with all his heart."

"No, George, dear; not with all your heart. There is something more than Cora there."

"A revelation"——

Cora laid her hand upon his lips, "Now, don't talk that, you know I don't understand it, and I get muddled, and wish you were only more like other people."

"How, Cora?"

"Well, I wish you told stories, and laughed, and loved the cows and the chickens, and whistled, and said your prayers solemn-like, and believed in the minister, and would get cross and scold and make it up again, and feel proud about your new hat, and trousers, and my new bonnet," and Cora burst into a laugh at her own description, with tears wet upon her eyelashes.

"Well, darling, you might have all that in Paul Steers, our mill-boy neighbor."

Cora put a little, tender, wifely, girlish slap upon her husband's cheek, and pouted, and laughed, and said,

"That is a bright young man, George. Did you ever notice how smart he is?"

"I think very much of him, dear; but I must go to my class. Good morning, love!" and, with a kiss, he was soon to be seen going across the green lawn, under the whispering pines, in the direction of the College.

Cora watched his retreating figure with a sigh, and hoped he would turn back and kiss his fingers to her, but he did not—only walked away musingly, with his head upon his breast, as if in deep thought.

"I have no doubt he is thinking of Zalinka," she murmured.

In the evening, when the Professor took his seat by the shaded lamp, and a Greek book in his hand, Cora pushed the latter aside, saying,

"Don't you want to hear Sister Electa tell how she got down from the great rock?"

"Assuredly, my dear," replied the Professor, who could not but like the ready speech and enthusiasm of this child-woman, who had at the moment entered the room. The placid face, and clear, harmonizing voice of Sister Electa were enough to infuse a cheerful content anywhere, while the very essence of purity sat perched upon her plain white cap, that rather embellished than hid her rich folds of brown hair. It must have been that a troop of those lively imps that keep the flowers from defilement, and the bird's wing from dust, were constantly hovering about Sister Electa, whose fresh dress, always like the perfume of linen bleached upon the green grass, was never known to harbor "a speck of dirt."

The Professor's face brightened as he noted in his quiet way this wholesome completeness in the person of Sister Electa, and he waited till she had adjusted her knitting-work. She, after having pinned a "knitting sheath" to her side, and placed the point of the needle therein, with the thread daintily thrown over the little finger

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and round the first, began that series of movements which seem to the uninitiated but an idle click of two points of steel, but would result in the production of a pair of warm blue stockings for the Professor, with white toes, as is generally thought advisable in New England, thus replied.

CHAPTER VII.

A Shaker Child Sick unto Death.

"I NEVER knew in what way I was released from the great rock and my young tormentors; nor how long I performed the operation of sticking out my lips at them, for my next period of consciousness found me lying stiff upon my little mattress, and Sister Sophia sitting by me in the twilight, with a pointed elbow thrust into the palm of either hand, and her great cold gray eyes fixed upon my face. Ever and anon she would lift up my head and hold a bowl of pennyroyal tea to my lips, and then put my head back again upon the pillow, as if it had been a ball of yarn. Then she would put her two feet upon the rungs of the straight-backed chair, readjust her elbows in the palms of her hands, and fix her eyes again upon my face."

"Mercy! gracious me!" cried Cora; "I should have gone wild."

"I did not know what was the matter with me," resumed Sister Electa, "but I in turn kept my eyes fixed upon hers, although their still, cold, changeless look made me shudder from head to foot. Sometimes she was Sister Sophia; sometimes she was a gray cat, whose loud purring made me half deaf; sometimes she was a clock, and I wished she would stop that heavy tick, tick, which made my poor little heart beat as if it would burst my bosom. I crawled down under the sheets and held them tight with teeth and hands. Then I heard the water pouring over the mill-wheel, and the birds singing in the branches of the trees.

"Then I thought I was lifted up in the air, and such a crowd of beautiful children came to me! They held out their hands and smiled, and called me a lovely name which I could never recall. Then I opened my eyes, and what do you think I saw?"

"Now you will never guess, George; nor I, either; so do tell us, Sister Electa, so as to keep up the story." This from Cora.

Sister Electa busied herself with her knitting-work, readjusting the sheath at her side, and gave a faint sigh before she went on.

"Sister Sophia had taken me in her arms, and was holding me to her poor, wasted bosom, weeping and sobbing as if her heart would break; and there were the Elders, and the pale sisterhood, all seated around in stiff, high-backed chairs, and each and all were striking the right hand, the fingers doubled up, into the palm of the left hand; their eyes fixed upon the ceiling of the room, and singing in a high voice a little song of the Order."

"Oh sing it, Sister Electa; sing the song just as the Shakers do," cried Cora.

"It will only make thee laugh, Cora; but I will do so to please thee," and she sang the following words in a high key, but with a voice so clear, so sympathetic, and bird-like, that Cora, so far from laughing, bent down her head with tears in her eyes.

"Home, home to the angels go;
This is no place for thee;
Home, home, where the rivers flow,
Like amber to the sea.
We will not hold thee here,
Oh take her, Mother dear!

"Home, home to the house above,
Where chambers fitting be,
And arms of heavenly love
Are all outstretched for thee.
Sweet Mother, tender, mild,
Take home this little child."

The soft, clear voice of Sister Electa ceased, and old memories so stirred at her heart that the tears were tremulous in eye and voice. At length she went on.

"It was evident that they thought me dying, and I was so happy, so content, such lovely looks of lovely children gathering about me, that I was willing to go. Child as I was, the picture of the stern Elders with their upturned faces, of the pale sisters with tears streaming down their cheeks, produced a profound impression upon my mind, and in after years I was able to comprehend the volume of irrepressible tenderness, which smouldered under their stern creed, the soul of the human crying mightily for utterance."

"How unlike you are to any thing I ever imagined you to be, Sister Electa," said the Professor, musingly.

"A woman is not easily read any way," said Cora.

"Thee has said a wiser thing than thee is aware of," Sister Electa answered. "A woman reads a man far easier than a man can read a woman."

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"Now, Sister Electa, if you moralize, I am off; I do not and can not understand you; but tell me how you come out of it all. You did not die, that is plain to be seen."

"No, it is hard to kill a girl-child. Unless it is really predestined that she should be removed to another state of existence, it is hard to kill a girl; she will live through so very much."

"I believe you!" cried Cora, laughing. "You see how it is, George; it is hard to break our hearts. But what next, Sister Electa!"

"Not much more, Cora. Nothing to interest you. I grew to womanhood with these simple, pure-minded people, and then I left them, but always returning at intervals, and they receive me with unfailing love and kindness."

"But you do not tell *why* you left, Sister Electa," resumed Cora.

"I was not content, dear child. I felt I must have a larger sphere of life and observation. I have sometimes thought that one reason for the discontent of women in the world; their petty bickerings, their unhappy tempers may be found in a like cause. They are too large for the sphere in which they are now compelled to move."

"So much abnegation must dwarf the mind," said the Professor, "as a general rule, but you seem to have escaped in good time."

Sister Electa's serene face lighted up, and she replied, "Silence and solitude are great teachers; the long walks of the sisterhood amid the wild blooms; the grasshoppers chirping and racing before our knees, and the birds never weary with their own sweet music, all serve to wonderfully deepen the inner life; an experience of utter negation may deaden many, but others it only serves to develop to a fierce vitality."

"I suppose you cried, and struggled, had an awful time in your own mind, and an awful time with the Shakers, before you finally got away," said Cora, lifting up her eyebrows, with a look of real commiseration.

"Much of that sort in my own mind, but only goodness and thoughtfulness on theirs. Sister Sophia would never leave me, and she has shared in all my wanderings."

"Say, Sister Electa, don't you feel bad, that you do not know who are your father and your mother?"

She looked up with a clear, bright smile, and answered,

"That is a feeling which the world's people cherish. I fear, in my case, some evil existed, and pray daily that reparation be made, but otherwise, for myself, I, Electa, have no misgiving."

"What if the world should look down upon you?"

"I do not belong to it. If I did, who would dare?"

"Brava!" ejaculated the Professor. "Electa, you penetrate and scatter the mists of conventionalism with a strong hand. I, wedded to forms, and the abject slave to opinion, am learning of you."

Electa blushed slightly, and half raised her thin hand, as if to speak, and then, placing her needle in its sheath, resumed her knitting.

"Oh! do say something more, Sister Electa. Somehow I like to hear you talk, though I do not understand half you say. Did the Elders abuse you?" said Cora.

"Never. They tried sometimes to place me in that position of staid submissiveness expected from the little Sisters, but I was not one of the kind easily repressed. Kindness, the law of love, is the great law of reform in the world. Severity exasperates, maddens."

"You ought to preach, Electa," said the Professor, earnestly.

"A woman preach!" ejaculated Cora, lifting up her pretty brows and hands.

"I forgot she was a woman; and now I think of it, I think her hearers would forget it, also. My mind is clearing itself of much prejudice."

"I think the world's women are hardly modest. They want to be called feminine, which is a reproach, and they always reminds one of their sex, which is the reason that men look upon them in no other light," answered Sister Electa.

"Don't go off in such deep water!" ejaculated Cora. "Remember, I am no swimmer!" whereat the Professor touched one of her curls tenderly, and Electa continued.

"I was a persistent, out-spoken child, and questioned them beyond my years; they at first tolerated this, and then they began to regard me as an oracle, and to wait for my weird, childish responses with interest bordering upon awe. Had I lived with a more demonstrative people, or with a less simple, upright people, I might have fallen into some wild fanaticism, but I found a resource in our religious dance, which afforded expression for my enthusiasm. With no timbrel I converted this exercise into a Miriam-like ecstacy, and sang our wild religious hymns, with notes so wild and penetrating that they seemed in the ears of the listeners to reach to our seventh heaven, and swell the fervors of unseen choirs. Our measured dance, even now,

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is to my mind, a noble and appropriate expression of devotional feeling."

Electa sighed softly, and the Professor studied her face with a new interest, and for the first time seemed to be aware of its extreme spiritual beauty. He replied,

"I believe inspired women have appeared in the world, Electa, and perhaps you come as near one as the age admits or requires, but women in general must be left to their frivolities."

At which Cora put her jeweled hand over his mouth and bade him be quiet, saying, "I must not have silly women abused, seeing I am one myself, and the silliest of the silly."

"Every body likes to cavil at a superior woman; to abuse her, to controvert her opinions, which after all is a testimony to the suggestiveness and force of them. You may strike the steel and it gives forth a spark, while a blow upon feathers only tires the arm of the inflictor." Thus Electa.

The Professor mused awhile and then said, as if carrying out a thought audibly,

"Bad as women are, they are a thousand times better, even the worst of them, than the men."

"Therein thee is mistaken," resumed Electa. "Women are much worse than men, because they sin against greater light; because they step down for the sake of sinning; while men but obey their instincts."

"That is very severe; I do not think women are bad."

"Because thee does not expect them to be better than men, and thee is content to find them as they are; I look for the time when they will better understand themselves, and their mission."

"Men can never equal a woman in the blush," said the Professor, slightly coloring as he spoke.

Sister Electa's pure face assumed the tinge of the virgin rose blushing at the heart. It is a melancholy truth that few women blush handsomely; they look blue, or purple, or suffuse at the eyes, and thus the ideal blush is lost. Sister Electa's blush, on the contrary, by some mysterious alchemy converted her face to that of a child. She looked up with a pretty surprise and answered,

"A blush is the memory of Paradise!"

"How, Sister Electa? tell me how," cried the Professor.

"Thee must interpret oracles according as thee is able to find the key," she answered softly, evading the question.

The Professor had taken up a pen, and began to sketch the outlines of a vast teocalli, with palm trees, and in the midst the head of a serpent. Electa and Cora followed the rapid movements of the pen with admiring eyes, and the former replied,

"Thee thinks it is the touch of the serpent, that causes the blush! Only those who retain something of Eden are able to blush. Some primeval, leading, absolute quality of the human mind has been invaded to produce the blush."

"Dear, dear me!" cried Cora. "I blush because I am pleased or angry, ashamed or proud, and there is an end of the matter."

"Thee is far finer than thee knows for," answered Electa, tenderly.

"The innocent blush because of innocency, and the guilty because of guilt," mused the Professor.

"Perhaps the blush is the testimony to experience. Those who have become over-wise in this way, lose even the hint of innocency, and cease altogether to blush. They have then lost sight of the angels."

"Talk on, do, Sister Electa," coaxingly cried Cora, but she only pointed in reply to the face of the Professor, which had settled forward upon his paper, a sweet smile upon his lips.

Cora put her arm over his shoulder, and laid her bright curls close about his head, and listened, but in vain, for some word from his lips.

"Dreams are holy, my child," said Electa. "Let it not distress thee; a wife should enlarge her heart and mind, and be patient when she can not understand."

THE DEMANDS OF WAR.—"When we are told that over three millions of men, in the prime of manhood, are trained in the armies of Europe for war, I say to myself, nineteen out of twenty of all this host are poor men's sons. Think how much hard toil in the field and factory, mine and mountain, what parental tears, and trials, and anxieties it cost to raise up these three millions of young men to the age of eighteen or twenty years! Then I look at them while they are at drill; I see they are all picked men—all chosen for perfect health, strength, and stature. The military surgeon has examined them all, and declared them very good for war. We have no surgeons to examine candidates or recruits for the plow, axe, hammer, or spindle. Bow-legged men, asthmatic men, one-eyed men, rheumatic men are deemed good enough for the great industrial armies of the world; just as if war must have the flowers, and peace the weeds of mankind.—*Elihu Burritt.*

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Mind your Eye.

BY REV. CHARLES H. BRIGHAM.

THIS familiar maxim of the play-ground is not so well remembered in the school and in the house. The most of children, and of men and women, too, learn to mind their eyes only when it is too late, and the mischief is done. No part of the body is more trifled with than the most delicate of its organs. If the eye is not abused by direct and wanton injury, for the sake of fashion, as are the feet encased in tight boots, or the waist compressed to a hand-breadth, it is abused indirectly in many ways. It is over-worked, strained, exposed to bad light, turned to improper uses, deprived of its proper rest, and made the victim of late hours, and much "good fellowship." It is abused in travel, abused in study, abused in the work of many trades, abused in the process of the toilet, and by cosmetic arts. In lace-making, in watch-making, in copying, in microscopic and in telescopic investigations. in visiting picture galleries, in reading diamond editions in railway cars, in reading by the unsteady light of bat-wing burners, or by the dim light of candles and tapers, in winter sleighrides, and in summer boating, the light of the body is distorted, and made, how often, to become darkness! By a disordered stomach not one, but many motes, fill the field of vision. Red and angry eyes tell in the morning who has tarried long at the wine. Bleared and filmy eyes show how the hours of night have been used in the toil of the needle; and many secret sorrows express themselves in the maladies of this frank and irrepressible organ. An oculist's waiting-room unfolds a tale of manifold follies—of mischiefs which his best skill can only in part undo. For diseases of the eye are the most subtle, persistent, and obstinate of all diseases, that show themselves in outward sign. It is easier to know them than to remove them, easier to hinder them in the beginning than to repel them by lotions or prescriptions.

In this short essay, we propose to say some words about the troubles which come upon the eyes, that may be avoided in observing some reasonable rules which we shall give. No rules can prevent in all cases the disease of *blindness*. Some will be born blind, and some will inevitably become so, in the passage of their years. Only the fewest preserve, like the Hebrew leader, the eye undimmed when their four-score years are finished; and the fate of Lear and Milton is common, even where the daughters of the house are kind in their ministration. Blindness in some kindreds is a fatal inheritance, to be predicted in the shape of the eye and its color, and in the temperament of the man. On some eyes the cataract is a natural growth, which will return, though it be removed again and again. There is a blindness which no clay from the sacred hill or water from the Siloa pool, even with the promise of an anointed priest, can fairly heal. But not a little of the blindness which seems to be incurable has come from something beside native constitution and infirmity of the blood; and this, moreover, is the least frequent of the troubles of the eye. There is a good deal certainly of partial blindness. A good many are blind, physically, in one eye, as they are blind, spiritually, *without knowing it*. Some go through life, seeing their own interest and way well enough, though their vision is all one-sided. In Egypt, under the reign of Mohammed Ali, there were battalions of one-eyed men, excellent on the flanks of the main army. And perhaps the literalists would find Scripture warrant for the practice of the Egyptian mothers in the text, "If thine eye be single, thy whole body shall be full of light." One clear eye, no doubt, is better than two eyes which are at cross purposes. But as Jack Absolute says to his father in Sheridan's play, the popular prejudice runs in favor of two eyes, and they are essential in a profitable use of the stereoscope. The effect of the *wink* is less when the sight of one eye is gone.

The crossed eyes are a trouble which the surgeon's knife must, and generally can remedy. In a song of the last generation, we used to hear of Miss Julia that "a cast in the eye to her looks added vigor," but the other line of the couplet had more of admitted reason, "a cast in the eye often tends to disfigure." It is difficult to be entirely at ease with a cross-eyed man. If he "strikes where he looks," it is dangerous to be in his company, when he is splitting wood, or threshing grain, or shooting at a mark. Eyes that look both ways are convenient for a school-teacher or a college-professor, and may aid a preacher to see his audience while he reads his manuscript. A lawyer in the court-room may gain something if he can keep one eye on the

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witness and the other on the jury, as it was said of a certain noted Massachusetts advocate. On the whole, nevertheless, the convenience of crossed eyes is balanced by the suspicion which they create. A man with strabismus always makes his friends wish that they were near-sighted, or that he would wear something to hide his misfortune. It is not much better when the strabismus is of eyes which turn away from each other, and roll in opposite directions, as the eyes of the turtle and the hippopotamus. By imitation, too, the children of a family often catch strabismus, and involuntary sinister looks are taken by the daughter from the eyes of the loving father. A wise father will check the first symptoms in his child's features, of a defect which may wholly change their expression. For there are not many woman who are really proud of a "cast in the eye," even if they can captivate by it the man who shall by-and-by become President. Strabismus is bad in the eye of a young girl, but it is hideous in the eye of a matron who has lost her bloom. On the canvas it is the sign of a demon, and never of a saint. Judas is cross-eyed in the old pictures.

The *color* of the eyes can be criticised more easily than it can be changed. Hair can take hues according to the fancy of the wearer or the skill of the hairdresser. A bloom can be put upon the cheek which is not the blush of nature. Pale lips can be made to wear a rosy flush, and the form can become plump in judicious padding. But the iris takes its shade from unassisted nature; the black eye will not change to a heavenly blue, or the hard gray eye to a soft hazel, with all our wishing or willing. Sometimes the color of the iris fades, and the black becomes brown as its light is lost under the ministry of lenses; yet most go through life with that hue in the eye which was caught in its first opening. A chapter in the "Notes on Noses," begins "How to get a Cogitative Nose;" and Dr. Warren, Senior, of Boston, used to boast that his son had improved nature more than once in reconstructing that prominent organ. But no process of surgery or physic can get for the eye a better color than nature gave it. The lids may be blackened, either by the dye of the Turkish harems, or by the "shillalah" of the Irish fairs, but any attempt to make the hue of the eye-ball better will make it worse, and quench all its lustre. Fortunately, no color in the iris has exclusive honor, and the unpopular shades of green and yellow are exceptional. Any eye that is lighted by intelligence, by affection, by sympathy, is beautiful, whatever its natural hue may be. The beauty of the eye is more in its pupil and its form, than in the shade of its ring, as we may see in comparing the pictures of St. Elizabeth of Hungary with those of Catherine de Medicis. An eye is beautiful when it is clear, whole, strong, and healthy.

The French physicians divide those who have defects in the sight of the eye, which they must remedy by artificial means, into the two classes of *myopes* and *presbytes*. The *myopes* are those who see distinctly only what is near the eye, but have no clear perception of what is distant. The *presbytes* are those who see distant objects well enough, but are blind to a clear view of what is near them. Old age brings on the presbyte state, by the flattening of the lens of the eye, and only the fewest can see near things well after they are fifty years old. The disease of this state, if it be a disease, can not in many cases be hindered by medical art. There are instances of men and women who have never used any aids to sight, yet who profess that they can read, write, or sew as comfortably in their age as in the day of their youth; but cases of this kind are not one in a hundred, hardly one in a thousand. When an elder goes without glasses, the chances are that very little of the work is done which would require them; the reading is by proxy, the writing by a scribe, the sewing by a seamstress. To the very old, sight sometimes comes back, and the glasses are discarded; but the work of this extreme old age is of little value, and the light that comes in through the windows of the soul is very faint and uncertain. The convex lens is as much a necessity in the latter years of life to most who have had good sight in their earlier years as the warmer covering for the limbs. There is danger in attempting by manipulation of the eyes to prevent this natural flattening. It is only hindered by its opposite malady, and this remedy is worse than the first disease.

There always have been *myopes*, short-sighted men and women. But the class is much larger in our age than in the former centuries. There is no reason to suppose that the Germans of Luther's time were afflicted with this evil. It is very rare to see on any old print or picture, even of the most realistic kind, a young man or young woman with eye-glasses. Perhaps their use in those days was not known, and they were needed as much as now. Yet we can not help the belief that a change has come over the eyes of the German people and in the schools of science, when long sight is, as now, the exception more than the rule. A German student is even better known by his spectacles than by

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his beard; but Holbein would not have painted him so. German mechanics have the same weakness, and carpenters, blacksmiths, and ropemakers, saw and hammer and twist by the aid of a changed focus. Even sharpshooters use glasses to see their mark, and could not hit without this help. At a Schutzenfest quite as many are garnished with their supplementary eyes as those who depend upon their natural provision.

And the disease is not confined to the Teutonic land, though it has there the largest range and is most hereditary. Among the long-sighted Yankees, whose keen glances can almost pierce the proverbial millstone, and realize the proposition of Mr. Samuel Weller of seeing through a double-brick wall, there are more than enough whose "wision is limited," and who pass innocently their friends without recognition. Schoolgirls wear the eye-glass, and not mostly for ornament; more need it than actually wear it. In every church there are some who can not see the preacher, except as the *lunette* reveals him. In how many college classes near-sighted teachers lecture to near-sighted pupils. The habit of the malady is often transmitted, but quite as often near-sighted sons and daughters can not trace their misfortune to the vice of ancestry. In most cases, it is the result of bad customs or study or work or routine in life. One-half, at least, of those who wear glasses for near sight had no natural defect in the eye, but can trace the progress, if not find the beginning of the mischief. Men are naturally far-sighted, unless the conditions of their life make them near-sighted. Bedouin Arabs see as well as the vultures of the desert who "haste to the prey and speed to the spoil." A seaman is not troubled by short sight, but can see for a league in the blackness of night. Near-sightedness is a vice of civilized life, of school life, and of higher culture.

This state of *myopia* has, indeed, its compensations. It excuses inattention and forgetfulness. One who fails to recognize his friend can conveniently plead the shortness of his sight. One who has forgotten a face can find apology in his inability to see it. We know a stiff High Church priest, whose narrowed field of vision is more narrowed by his close-bowed glasses, who can never see heretics or any apostates from his flock; he has vision only of the faithful. The short-sighted youth, too, consoles himself by the thought that by-and-by he may lay aside his glasses and have free use of his eyes, when the noonday of life has come and he has grown to be a portly and honored citizen. It is a comfort to think that with increasing years sight will grow better and not follow the general law of dimness and loss. This hope is frequently delusive. Some are as near-sighted in age as in youth, and there are myopes with gray hairs who halt and totter on their way.

But with these compensations the state of *myopia* is very inconvenient and annoying. It is an annoyance at meals, an annoyance in all public places, in the church, the lecture-room or the theatre; an annoyance in the street, an annoyance in journeyings, an annoyance by night as well as by day. A near-sighted man goes down the steps with fear and trembling, as he comes out from the lighted hall into the dark night. To him landmarks are indistinct, and metes and bounds invisible. He mistakes a pool for the solid soil, and walks into a canal as he would cross the highway. He climbs a mountain only to find the landscape a blur before his view. The glasses which he wears are a perpetual nuisance, to be shifted on and off as his field of vision is changed—a plague as they are kept, and a despair when they are lost; and they are always lost just when they are most wanted, on a pedestrian tour, or in a public assembly. The damsel who wears them knows that they hide the light of her eye, yet without them her eye has no light. No contrivance of form, no richness of gold or shell, can make the double-glass sit gracefully on the nose of a fair virgin. The Venus, the Fornarina, St. Agnes, or St. Cecilia, would lose all beauty and saintliness with this ugly addition to their charms. Eye-glasses, for man or woman, are in the season of youth, never better than a necessary evil, troublesome at the first and hateful with increasing years. They enslave the freest soul and will, and make their captive exclaim often with the Christian Apostle, "Wretched that I am, who shall deliver me from the body of this death." Dr. John Brown, in his ingenious essay, will have it that Paul's thorn in the flesh was weakness of the eyes. But it is more probable that Paul was *near-sighted*, and was miserable because he had no glasses to wear. That cause may explain his many tears and groanings. A near-sighted man without glasses can never do a full apostolic work.

There are more diseases of the eye which might be specified; color blindness, by which certain shades are confounded and mistaken, and blue may seem to be green, and red may seem to be brown or black; weakness of the eyes, bringing now sharp pain, and now redun-

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dant tears; nervous twitchings in the lids; inflammation of several kinds; but we go out of our province in speaking of these. It is more important to give some practical rules in the use of the eyes, than to tell their varieties of defect. Where there is no native weakness, the eye, with all its delicacy, can as easily be kept in good order as any part of the body. We limit ourselves here to *ten* suggestions:

1. *Have plenty of light* when the eyes are used, plenty of sunlight in the day, plenty of artificial light in the night! Far more injury is done to the eyes by deficiency, than by excess of light. A dark room is no better for healthy eyes than it is for healthy temper or healthy faith. The economy that confines a family circle to one small kerosene lamp in the centre of the table, not only makes round shoulders and dull brains, but ruins the organ of sight as well. A single candle may be enough for a tired traveler in his hotel, who ought to be asleep with all speed, but is not enough for reading or for work. There are other indulgences that can be spared better than light. A badly lighted church, hall, parlor, or chamber, is a dangerous place for the eyes; and the study needs all the light that it can get. There is more need of light for those who are applying their eyes closely, than for those who merely stand and talk with each other, or dance upon the floor.

2. *Have a steady light*, if possible, and avoid the blaze which flickers and wavers. Half of our gas-burners spoil by their unsteadiness the strong glow which they give. Nothing tries the eyes more than the quiver in the air before them which a tremulous flame creates. For all close application, an even, constant, quiet light is the best light, a light that is not swayed by draught in the room, or by the rush of its own current. In a church which we knew, the congregation for years were tormented in all evening services by the rise and fall of the jets of light as they followed the eccentric action of a metre in the basement—an undulation not measured by the rhythm of the sacred song, or by the sentiment of the evangelical doctrine. A moderate amount of steady light is safer than a surplus of flickering light.

3. And a third rule is, to *take the light from above* rather than from any point below or in front of the eye. Not too far above, indeed. The new fashion of lighting churches from the cornice or the dome is an immense waste of light, with very doubtful benefit; and in a working room the light ought not to be very far from the eye which uses it. Just above the head, on one side or the other, so that it may come over the shoulder, and give full illumination to the space between the eye and its work, whether reading or manual work, is the best place for artificial light. There is no custom more pernicious than that of holding a lamp of any kind between the eye and the book, and confusing the reflected light with the direct light.

4. A fourth rule is, to *avoid*, as far as possible, *continuous work on that which fatigues the eyes*, to read diamond editions very sparingly; not to spend much time on the fine print of newspapers; not to read much in the railway cars of the ordinary pattern; to eschew the finer kinds of needle work; to give frequent interval of rest to the sewing machine; to be moderate in the use of the microscope. Little things are not good for the eyes, notwithstanding the power that they have and the marvels that they hold. It is bad enough that some trades compel this close watch upon minute objects; vexatious, too, that divine Wisdom has made so many wonderful things invisible to the naked eye. But it is a poor exercise of ingenuity, that will multiply these marvels of littleness, that will write the Lord's prayer upon a dime, or print the Declaration of Independence in a photographic dot.

5. Then an important advice is, *not to use the eyes when they are tired*, to stop any kind of work or play when the sense of weariness or pain is felt in the nerve or the lids. All reading with tired eyes is unprofitable, all writing with tired eyes is dangerous. No matter if the fatigue comes on too soon and before the task is done; the eye is of more worth than any task to which you can put it. This is the most frequent way in which the eye is made to "offend," by being over-worked, worked when it ought to be resting; and the result is practically that which the Scripture indicates—the eye is ruined, plucked out and lost. The type-setters and proof-readers of the daily newspapers obey the injunction of the Sermon on the Mount more literally than Jesus intended. It is always time to stop working and stop looking when the eyes are weary, whether they are following the page of Dickens, or looking upon the pictures in a gallery, or making pictures in wool or on canvas.

6. And when the eyes are tired they ought to have *plenty of rest*, of sufficient sleep in the night, and rest, too, in the day. To keep the eyes shut in the day-time is not the best way, and the custom which some have of listening to sermons and lectures with closed lids is not more a sanitary help to the optic nerve than

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an aid to close attention. In the day-time, and when one is awake, the eyes ought to be open. But they may be rested by changing the scene, by giving them pleasant colors to look upon, and the various exercises which shift their focus. The paradox is true, that the eye rests when it is most active and restless, when it wanders from side to side and from far to near. The bright, quick eye finds more rest than the dull, heavy eye, which is too lazy to get away from its routine. There is no rest for the tired eye better than a walk among the garden flowers or a game upon the grass. Plenty of sleep, and a good deal of play, are better medicine for the eyes than any lotions, and if taken soon enough, save from the hateful slavery of the eye-glass.

7. In an essay of a former series we have told the virtues of water. For the eye water is the best of tonics and purgatives, restoring vigor, cleansing away impurities, and preventing corruption. To *wash the eyes several times in the day*, is a simple, but a very needful advice. It is a misfortune of the Anglo-Saxon race that they have so few tears to shed, that they hold so firmly the lachrymal ducts, and weep only in metaphor. A daily flow of tears might save untimely weakness of another kind in the eye, and obviate opthalmia. There is no blessing in "stony griefs," though Bethel may be raised from them, equal to the physical relief which comes in a flood of tears. Too much weeping may redden the eyes, but an occasional fit will only brighten them. In default of tears we must content ourselves with fresh water, which cleanses without inflaming. Old eyes and young eyes alike need its baptism.

8. *Not to rub or handle the eyes* is another necessary caution. The eye and hand are friends, co-workers, auxiliaries, but they have separate functions, and when brought too near together may spoil each other's work. "Hands off" should be the rule of care for the more delicate organ. Manipulation weakens the force of the eye, makes it more sensitive to the touch of dust, reddens its surface, and disposes it to inflammation. Very few of the causes of pain in the eye are removed by the rubbing of the fingers upon it, and the evil, whether it be a film or a cinder, is usually made more annoying. The eye can not say unto the hand, "I have no need of thee," but it can tell the hand to keep in its place. The eye carries in its own ducts and gentle muscular motion a better source of relief.

9. And near to this is another rule, *not to put foreign substances upon the eye or its coverings*, not to dye the lids, as the Orientals do, or fill their wrinkles with powder, in the vain hope of keeping their youthful expression. Cosmetics are of small value even for the cheek and forehead, but for the eyelids they are worse than useless. The ancient eye-stone has now mostly gone out of use, and it was never a very efficient surgical instrument. If the eyelid has an unhealthy hue, a dark purple ring around it, the remedy should be applied elsewhere and be constitutional rather than local. Pearl powder upon the eye is more dangerous than the dust of the highway—and diamond powder as fatal as the filings of steel.

10. To these one more hint may be added, *to keep a good digestion*. The stomach "crammed with distressful bread" dims the vision as surely as any direct injury to the eye itself. Those floating specks which make the air swim before the eye are signs of gastric disorder, as much as night-mare or neuralgia. Dyspepsia and opthalmia are sisters, almost twin sisters, and work as harmoniously in their wicked mischief as the weird sisters in Macbeth, or the Furies of classic fable. Maladies of the eyes are comparatively rare where digestion is perfectly regular.

These plain suggestions are offered, not as new or original, but in the hope that they may hinder some of that complaint which reveals the wretchedness of those whose eyes cause them to suffer. From neglect of such simple counsels as these, and too exclusive heed of the spiritual functions of the eye, its power and value are neutralized. As we said in the beginning, heedlessness and not willfulness is here the cause of woe. The neglect of the eye justifies in another and quite literal form, the pithy sense of the Italian proverb, "*Cieco è e'occhio se l'animo è distratto.*"—A heedless mind will bring on a blind eye. There are more dignified questions concerning the use of the eye which we have not here touched, about its "education," its discipline, its relations to the soul, its philosophy and its poetry. Prof. Agassiz showed once to the Massachusetts legislators that they were in the predicament of the ancient Pharisees, "who, having eyes, see not." But eyes which are to have poetic or philosophic or keen or enduring vision, must be sound, strong, and healthy. The prophet who would mount on eagle's wing must be also a "seer" with eagle's eye.

THE man who builds a house that he has not the means to pay for, simply provides a home to run away from.

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Activity.

BY REV. HENRY WARD BEECHER.

THE errand of life; the education, unfolding, strengthening, and combination of the mind; the exigencies of business; the duties of citizenship; the cares of the household—all these demand seriousness of purpose, earnestness of life, and steadfastness of activity.

Men do not enter life by accident. They are sent upon a mission. And for every man, whether he knows it or not, there is marked out a course that belongs to him only. No man ever repeated the life of another man. No two minds were ever alike; and no two persons were ever able to do each other's work.

If you compare man with the animated creation beneath him in rank, while you will perceive in the lower orders of animals rude traces of that which exists in men as faculties, yet you will find that between man and the mere animal there is a gulf so wide that it may well be said to be impassible. But in nothing does man differ from the animal more than in the prophesy which there is in his equipment. The ox is made for strength; but what provision is there in the bovine family for society, except the feeblest and faintest relations of companionship? What provision is there in the ox species for the investigation of the knowledge of the globe on which they dwell? Where, in the animal kingdom, can you find the first rudimental element of moral feeling? Some intimations there are of reason in the animal kingdom; bu what is reason that barely rises above an instinct, and is, after all, faint and feeble? What is there that can compare with the varied powers with which men are endowed? Man is the head of the animal kingdom not only by the divine declaration, but by the variety and richness of his faculties, and his capacity of development; so that he is, compared to what he was when he was born, what the oak is compared to the acorn from which it sprang.

Now, what was this equipment given to man for? If we look at a seed, we expect it will work out the end for which it was created. If we look upon man as a wondrous creature of powers and faculties, the first and natural demand which we make is that he shall in some way answer or endeavor to answer the purpose for which he was designed. It would be very strange if a man should build a vast and ponderous engine, capable of pumping thousands of gallons of water every hour, to pump only thimblefuls; and equally strange would it have been for God to have created man with all his wondrous powers, not only physical, but social and moral and spiritual, to perform the functions of a mere animal.

If you look from man to the sphere in which he acts, and to the duties that meet him from first to last, you will find drawn externally from his circumstances the same inferences which you are inclined to draw from his equipment, or his mental constitution. For the healthy development of body and mind depends upon energetic activity. It may almost be said that action is health, and that right action is education. Development is, in all the higher aspects, voluntary, and not accidental. Although activity is necessary to the development of the body, and the filling out and completion of manhood from infancy in the body, yet more necessary still is development of the mind and the moral nature. It is indispensable to moral health that this should be voluntary. A certain amount of education is derived from our institutions, and from those things which are called "accidents," but which are causes, and come in regular order and sequence; but no man ever comes to the full possession of himself, and to the facile use of himself, who does not by voluntary activity develop all his mind and his whole nature. An undeveloped man is never a wholesome man. A partial man is a cripple. He is paralyzed in part of his being.

No man can answer the demands of business except by high activity. No man can be a business man except through knowledge. It would seem, sometimes, as though this were not so. There are men who seem to succeed, and yet are narrow. Well, a needle will carry a golden thread; and yet, a needle is very narrow. But it is sharp; and by continuous thrusting it carries the golden thread that embroiders the plain fabric with raised and beauteous figures. And a man may, in a narrow sphere of business, be narrow, and yet be so knowledgeable and so active as to achieve success. But no fool succeeds in life. No man who is ignorant of the things in which he is engaged can succeed. Business is simply a matter of knowledge. Although there may be hereditary tendencies oward skill in certain directions, yet it is a law

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of our being that we shall learn for ourselves skill, knowledge, experience. Your father can transmit to you his property, but not his experience. Your father can transmit to you his name, and can give you a position to start with in society; but he can not give those thousand wondrous adaptations which have come to him through study and practice. Every man has to build himself up, if he is successful, by activity, early begun, long continued, and infinitely varied. Many seem to think that success in life may be had by abbreviated processes; but the longer I live, the more I feel sure of the great underlying law of moral equivalents, and that men who achieve success and keep it, must give *quid pro quo* for every single step of that success. The more I observe, the more I feel certain that the men who seem to achieve success by short courses, not giving an equivalent therefor, of work, or skill, or being, soon lose it. I believe life is organized so that honesty means giving a fair equivalent for every thing you have. But that is not the impression of many. Some people think that genius is equivalent to application, industry, and activity. Others hope from occasional potential efforts to accomplish great results. Still others hope by a peculiar tact and sharpness to extract the golden pile from the mountain. And men never learn, apparently, on this subject. The same round of experience is gone through with again, and again and again; and nowhere else in this world is there such slaughter of hope and happiness, or such a multitude of disasters, as in the business career of men. All of which illustrates the great truth that success is the effect of causes, and that it answers exactly to the causes that are applied to its production. No man can so teach the young but that they will come upon the stage of life with rosy hopes that somehow almighty luck shall stand in the stead of Almighty God to them. Luck is the fool's idol, which he stupidly worships. All these seemings of attaining given objects without laboring for them in appropriate ways, are only seemings; and you will perceive that they are such if you follow them long enough to see their rise, progress, decadence and disaster. And let me say to every young person: If you are living simply for business life, you are bound to be earnest and active.

No man is qualified to fulfill the duties of the household but by assiduous preparation, that implies feeling, purpose, activity, earnestness. There are two conceptions of the household—one exceedingly low and material, and the other rational and Christian. If marriage means passion and economic convenience; if the house means the table and the couch; if home is merely a refuge from animal weariness, and a resource for replenishing animal necessities, then it will not take much to fit you for the household. A man is fitted to be an animal with very little trouble. He is that before he is a man. All that is necessary to keep him an animal is to prevent his growth. Prune him back severely, dwarf him, graft him on to some quince-stalk, and he will be qualified to perform all the duties of an animal. Many persons have scarcely a higher conception of the household than that it is a stable where they can stand at the rack and there find their food, and that it is a place of seclusion where they are to have animal quiet and rest. But such is not the Christian and rational conception of the household, which is, that it is the very gate of Heaven; that it is the sphere where souls, drawn together by a true love, learn the homage of love, and learn the lesson of submission, in love, one to another. For, in the kingdom of love, he that yields governs.

Not only is the household set up in this royalty of love, but it is the duty of the household to multiply all the glorious traits and virtues that make life rich, not in the animal, but in the mental and moral spheres. And, next to Heaven itself, there is nothing that has capacities and capabilities of such purity and nobleness as the household. In the household, more than anywhere else, we learn humility. There, more than anywhere else, we learn meekness. There, more than anywhere else, we learn self-denial. There all burdens and yokes that love lays on us are easy to be borne. There we learn what are the feelings of love that unite men. There we learn the mystery of bearing one another's burdens, and of suffering one for another. And no man can enter the household, fitted for the household, who has an indolent, aimless, inactive spirit. Being fitted for the household, means being educated for the duties of active life.

No man can fulfill his obligations as a citizen without the most serious, arduous, and laborious activity. In many lands, citizenship means simple obedience to the majesty; but in this land, while we obey the majesty, we create him. Where all authority is concentrated in the monarchical head, citizens are not permitted to think nor to meddle with public affairs; but in our land it is the duty of citizenship to think of law and policy, and exert an influence upon matters belonging to the State. And no man can fulfill this duty, and at the same time be less than active.

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For the most part, men are disposed to seek their private welfare and set aside their public duties; but no man has a right to neglect the community in which he dwells, any more than he has a right to neglect the family in which he dwells. I know of no truth that sometimes needs to be expounded more than that of the duty which rests upon every citizen to take a disinterested and active part in the welfare of the city, State, or land. And no man can fit himself for the common duties of citizenship except by faithful and energetic activity.

The Landlord of the Blue Hen.

BY PHŒBE CARY.

ONCE, a long time ago, so good stories begin,
There stood by the roadside an old-fashioned inn;
An inn, which its landlord had named "The Blue Hen,"
While he, by his neighbors, was called "Uncle Ben;"

At least, they quite often addressed him that way,
When ready to drink, but not ready to pay;
Though, when he insisted on having the cash,
They went off muttering "rummy," and "old brandy smash."

He sold barrels of liquor, but still the old "Hen"
Seemed never to flourish, and neither did "Ben;"
For he drank up his profits, as every one knew,
Even those who were drinking their profits up, too.

So, with all they could drink, and with all they could pay,
The landlord grew poorer and poorer each day;
Men said, as he took down the gin from the shelf,
"The steadiest customer there was himself."

There was hardly a man living in the same street,
But had too much to drink, and too little to eat;
The women about the old "Hen" got the *blues;*
The girls had no bonnets, the boys had no shoes.

When a poor fellow died, he was borne on his bier,
By his comrades, whose hands shook with brandy and fear;
For, of course, they were terribly frightened, and yet,
They went back to "The Blue Hen" to drink, and forget!

There was one jovial farmer, who could n't get by
The door of "The Blue Hen" without feeling dry;
One day he discovered his purse growing light,
"There must be a leak somewhere," he said. He was right!

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Then there was the blacksmith (the best ever known,
Folks said, if he'd only let liquor alone);
Let his forge cool so often, at last he forgot
To heat up his iron, and strike when 't was hot.

Once a miller, going home from "The Blue Hen," 't was said,
While his wife sat and wept by her sick baby's bed,
Had made a false step, and slept all night alone
In the bed of the river, instead of his own.

Even poor "Ben" himself could not drink of the cup
Of fire for ever without burning up;
He grew sick, fell to raving, declared that he knew
No doctors could help him; and they said so too.

He told those about him, the ghosts of the men,
Who used in their life-times to haunt the "Blue Hen,"
Had come back, each one bringing his children and wife,
And trying to frighten him out of his life.

Now he thought he was burning, the very next breath
He shivered and cried, he was freezing to death;
That the peddler lay by him, who, long years ago,
Was put out of "The Blue Hen," and died in the snow.

He said that the blacksmith, who turned to a sot,
Laid him out on the anvil and beat him, red hot;
That the builder, who swallowed his brandy, fourth proof,
Was pitching him downward, head first, from the roof.

At last he grew frantic; he clutched at the sheet,
And cried that the miller had hold of his feet;
Then leaped from his bed, with a terrible scream,
That the dead man was dragging him under the stream.

Then he ran, and so swift that no mortal could save;
He went over the bank, and went under the wave;
And his poor lifeless body next morning was found
In the very same spot where the miller was drowned.

"'Twasn't liquor that killed him," some said, "that was plain,
He was crazy, and sober folks might be insane!"
"'Twas *delirium tremens*," the coroner said,
But whatever it was, he was certainly dead!

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Present Duty of Temperance Men.

BY REV. J. C. HOLBROOK, D. D.

I HAVE been requested to respond to the question, "What is the *present* duty of the friends of Temperance?" I answer:

I. *To have unwavering faith in the final success of our cause.* No man ever achieved any thing great and noble in this world without faith. It is one of the profound truths of revelation that faith is the mainspring of activity in religion, and indispensable to success in doing the will of God. "Without faith it is impossible to please God." And the whole history of human enterprise shows that faith inspires effort and perseverance in every great work. The case of Lesseps, in achieving the Suez Canal in spite of ridicule, opposition, and almost insurmountable obstacles, is a recent illustration in point. He believed it was practicable and he persevered. Doubt of final success in any great and arduous undertaking is inconsistent with the persevering putting forth of all one's powers for its accomplishment.

Now, I am much mistaken, if the prevalence of such doubt as to the practicability of the Temperance Reform—I mean its general and complete success—has not so far invaded the ranks of its professed friends, as to cause, with many, a relaxation of effort, and in some cases an entire suspension of it. They have become so far discouraged and disheartened that their activity is to some extent paralyzed. It has cut the sinews of their strength. There was a time when the work of reform rolled on with such majesty and power that the day of triumph seemed just at hand. But for some time past there has been a rallying of the forces in opposition, and a combining of strength and pecuniary resources and political influence, that has checked, in some degree, the confidence of the friends of Temperance in their ability to achieve their end, and has "given them pause." Many are dismayed at the aspect of the giant power arrayed in support of the rum traffic and the use of intoxicating drinks.

Now, it seems to me that what we need most of all, at this moment, is *more faith in the entire practicability of the great enterprise in which we are engaged.* We must go back to first principles, and plant ourselves on the truth that this Reform is the cause of God, and is identified with the progress of his cause in the world, and therefore,

> "Since God is God, and right is right,
> The right the day *must* win;
> To doubt would be disloyalty,
> To falter would be sin."

I know it seems "to man's unaided eye" an endless and a hopeless task to stem the tide of evil that is sweeping over society, and to turn back the current of intemperance. But the prospect is not more discouraging than was that of the abolition of slavery a few years ago, when it wielded such potent influences in both Church and State. It is, in the view of multitudes of merely worldly men, a Quixotic enterprise to attempt to evangelize the world, but no Bible Christian doubts that it will be done, "not by might nor by power" lodged in human hands, but by the coöperation with men of the Spirit of God. It will not be done because man is strong, but because God is mighty. Fifty years ago the world laughed at the scheme of christianizing the debased Sandwich Islanders, but now they are the most Christian *nation* on the globe. The Temperance Reform is not the work of a day or a score of years, but persevering, Christian, and philanthropic zeal will carry it through, backed by the power of God. "If God be for us, who can be against us?"

Man's appetite for intoxicating drinks is strong, and the cupidity of rumsellers is unbounded, but there is a power in truth, clothed with a divine efficiency, that can conquer even these. *Nil desperandum* must be our motto, and with God's help we shall succeed.

> "Never give up! there are chances and changes
> Helping the hopeful a hundred to one;
> And through the chaos High Wisdom arranges
> Ever success—if you'll only hope on."

II. With this unwavering faith, then, our second duty is *to resolve that under no circumstances will we relax, in the least degree, our zeal in the Temperance cause.*

And to stimulate us we must ever keep before

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our minds the *importance* of the work in which we are engaged. We are in danger of forgetting this, and of losing the impressions once made upon us in reference to it. We must remember how indispensable this reform is, not only to the interests of religion, but also to the other great interests of society, and we must seek to keep freshly before our minds the fearful evils that are connected with intemperance.

To this end we must keep abreast with the times, and be familiar with the Temperance literature of the day. Amid the pressure upon our attention from all the thousand movements and enterprises of the age, and the teeming issues of the press in the way of books and periodicals, we must give room to what is written in reference to the facts and principles connected with the Temperance work. We must read, and write, and speak for Temperance, and thus keep alive in our minds the importance of our cause. And with such a sense of its claims we shall not be disposed to slacken our zeal. We must regard ourselves as enlisted for the war, and never to retire from the struggle till victory comes or life ends.

III. *It is our duty to employ, to the utmost possible extent, all available means of creating and maintaining a correct public sentiment in regard to the use of intoxicating liquors.*

And in reference to this point, I am persuaded the friends of Temperance need some quickening. There is too much tendency to rely on mere machinery and organization, and a disposition to rest content with a very circumscribed sphere of influence. The importance is not felt as it should be, of the diffusion of information in regard to the facts and principles that form the basis of our reform. Societies and "orders" are well, but if through them or in addition to them there are not measures employed to reach the masses, our cause can never triumph, and the tide of intemperance will never be stayed.

The people must be enlightened, if we would guard against the spread of drinking-habits and secure a right legislation, and make it permanent and effective. Tracts, books, and Temperance periodicals must flood the land; ministers must often preach on the subject; children must be rightly instructed, and above all, the old effective plan of public lectures must be revived. Able men must be encouraged to enter the field, and must be sustained by liberal pecuniary remuneration for their labors. A first-class lecturer, like Gough or Dr. Jewett, will always have audiences and produce effect.

I have no hope of the progress and success of our cause except as efficient and persistent measures are taken to enlighten the masses. The work can not be safely intermitted. Men need to have facts and principles reiterated, and as the young are advancing continually to maturity, they need to be instructed. I believe in societies, I believe in efforts to secure correct legislation, but I believe still more in the diffusion of knowledge, and I have no faith whatever in any plans or measures, moral or political, that are not associated with this.

IV. *It is our duty to insist on the total prohibition of the traffic in intoxicating drinks.*

Nothing else will be effective to arrest intemperance. It can not be secured at once, perhaps not for a long time to come, but it must be our ultimate aim. A few drunkards may be reformed and many may be saved from becoming such, by the labors in other directions of Temperance men, but so long as temptation is presented and facilities are afforded for drinking-habits by the sale of liquors, so long there will be intemperance. We must, then, take ground for prohibition, and utterly refuse to sanction the sale of liquors by governmental licenses, and we must educate public sentiment up to this point, no matter how long it takes to do it. The public mind can be enlightened to such a degree that prohibitory laws will be demanded, and sustained, and enforced.

V. *Temperance men must vote rightly.* For one, I do not believe in the expediency of the formation of a strictly and exclusively Temperance political party. But I *do* hold that every friend of our cause is under solemn obligations to refuse to support any man for a legislator or an executor of the laws who is opposed to that cause, and to vote for those who are friendly to it. If all the Temperance men in existing parties would take that ground, we should have none but Temperance candidates, and our end would be gained much sooner and more surely than through a third party, while other great interests would not be endangered.

And this leads me to say that it is of the utmost importance that this Temperance Cause does not pass out of Christian hands and degenerate into a mere political and godless work. And there would be great danger of it were a political Temperance party to be formed. Our only hope of success is in God. No merely human devices and measures can avail. It is a grand moral reform, and the friends of God and religion and morality—those who are actuated by the highest principles and who know how to pray, while not excluding the

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coöperation of all philanthropists, are those on whom reliance is chiefly to be placed. They began the work and they must carry it on to its completion. Hence, I remark,

Lastly, *that it is the duty of the friends of Temperance to pray without ceasing.*

Without this all other efforts will be vain. I have great faith in works in a good cause, but not in works alone. United with prayer that *is* prayer, they never fail. Prayer is the mightiest power intrusted to man. It is greater than intellect or eloquence or physical strength, and more invincible than armies. Queen Mary said she feared the prayers of John Knox more than an army of 20,000 men. Prayer "moves the hand that moves the world."

It secures for us that wisdom that is indispensable to the success of our plans, fits us rightly to engage in labors of love, and above all, it secures for us the coöperation of God. Prayer alone will not suffice, neither will work alone, but both combined, under the stimulus of faith, are sure to triumph.

Growth and Development.—II.

BY ARCHIBALD MACLAREN, OF THE OXFORD GYMNASIUM.

THE BOOKWORM.

SCHOOLS, large and small, are yet to be found where the exclusive bookworm is an object of admiration and wonderment, and master and usher unite in holding him up as an example, and point him out with pride to every visitor. But every sensible man feels for him but commiseration, and regards him but as a warning; for he looks from the boy to the man, and from the school-room to the outer world, with its rude encounter and its stern and prolonged struggle, and he sees how unfit are such a frame and such habits for the task—a warning too which urges less considerate minds to an opposite extreme! "My boy shall cultivate his *body*," says an astonished but not admiring father; and the resolve is a wise one, for well worth cultivating are the varied powers of the human body; and beautiful it is, and wonderful as beautiful, to watch the fair and free development of the frame of a shapely child; but the emphasis on the terminating word was meant to indicate that an exclusive culture should be given to the body, and that its twin sister, its coördinate companion, the mind, would be left to shift for herself, disowned, excluded from her rightful share in the educational inheritance.

Now this must be error, error arising from ignorance of our very selves. Mind and body should be viewed as the two well-fitting halves of a perfect whole, designed in true accord mutually to sustain and support each other, and each worthy of our unwearied care and unstinted attention, to be given with a fuller faith and more reverent trust than they have who would argue that He who united in us our twofold nature made them incompatible, inharmonious, opposed. No, no; even blind and blundering man does not yoke two oxen together to pull *against* each other. Mind and body can pull well together in the same team if the burden be fairly adjusted.

BRUTE FORCE.

"Brute force," "brute strength," are terms we constantly hear used, despisingly, of bodily power when it is designed to contrast it with mental ability; just as we hear the holder of an opposite opinion, and possessor of opposite acquirements, talk sneeringly of the "mere scholar." But they who speak thus err equally in their praise and in their blame. They seek to sever what were bound together in the very planning, if one may so speak on such a subject, of a living man; they disunite them, and then complain that the dissevered halves are of unequal value; they take the one and cultivate it exclusively, and neglect the other exclusively, and then make comparisons between them; forgetting that their fitness, each for the other, lay in the fair nurture of both, and in their mutual cultivation. Thus we hear of men who think out great thoughts, and work out great conceptions, and who yet in their material frames have not the stamina of a healthy child; just as we see the opposite—men with frames so strong and so hardy and enduring, that incessant toil can scarcely fatigue, and rest alone seems to tire

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them, yet of mental calibre so small that the intellect seems scarcely adequate to provide for the safety of the mortal machine confided to its care. But either condition is equally the result of error, and either development is equally a monstrosity, although the former is less repellent than the latter, and less humiliating to our intellectual aspirations.

THE SCHOOL-BOY.

But to return to the school-boy. It is not alone in a negative form, by exemption from extreme mental efforts, that the growth and development of his body is to be secured. Active bodily exercise, at regular and frequent intervals, must be obtained, and for this special provision must be made with as serious a purpose as for any school duty.

All Exercise may be classed under two distinct heads, Recreative and Educational. The first of these embraces all our school-games, sports, and pastimes; a long and valuable list, such as no other country can produce, and upon which every Englishman looks with pride and affection, for they mold the characters as well as the frames of our youths. But valuable as these exercises are—invaluable as they are—it will be at once seen that not one of them has for *object* the development of the body, or even the giving to it, or to any part of it, health or strength; although all of them, in a greater or less degree, undoubtedly have this effect, it is indirectly and incidentally only—the skill, the art, is the first consideration. And in this, as purely recreative exercise, lies their chief value, the forgetfulness of self, the game being all-in-all.

Out of this great good there arises, I will not say an evil, but a want, a defect. The parts of the body which have to execute the movements of such exercises are those which can do them best, not those which need employment most. Use gives facility of execution, and facility of execution causes frequency of practice; because we all like to do that which we can do well; and thus inevitably, because based on the organic law of development being in relation to activity or employment, certain parts of the body will be cultivated and become developed to the exclusion of the others. So certain is this the case, that it is as easy to tell from the general development of any youth what recreative exercise he has practiced when at school, as it is to tell from the conformation of the chest whether a man pulls on the bow or the stroke side of his College boat, when he comes to the University. It will be found that the lowe limbs and right arm have the lion's share of the employment or exercise in almost every one of our recreative exercises. They largely employ the lower half of the body, and where the upper limbs are employed, or the trunk, it is almost exclusively the right side. These distinctive features in our national recreative exercises have the inevitable tendency to develop the lower half of the body to the neglect of the upper; and this is most distinctly apparent to every eye; the lower limbs are usually large and not infrequently massive, while the upper region is usually small and not infrequently irregularly and imperfectly developed, narrow, flat, and, as it were, compressible; it is, in very many cases, years behind the lower limbs in all that constitutes growth and development. Indeed, I almost daily find in my professional life men in whom this inharmonious development is so great, that the upper limbs and upper region of the trunk, and the lower region and lower limbs, scarcely seem to be the halves of the same individual. And while at any time, among the hundreds of men and boys whom I have daily under my care, I might find it difficult to point to one in whom this lower half was really faultily grown, I could with painful facility point to dozens in whom the upper was distorted from its proper conformation.

Recreative exercises then, from their very nature, are inadequate to produce the uniform and harmonious development of the entire frame, because the employment which they give is essentially partial. Where the activity is, there will be the development; and if this principle be overlooked, a portion of the body only will be cultivated, and the neglected portion will fall far behind the others in strength, in activity, in dexterity, and in endurance, for the simple reason that it will be less abundantly nourished.

Recreative exercise in sufficient amount is usually in itself sufficient to maintain health and strength after growth and development are completed, but it does not meet the many wants of the rapidly-changing and plastic frames of youths spending a large portion of their time in the constrained positions of study; taking shape almost day by day from day-to-day occupations. Hence the necessity for a system of Educational Exercises. It is the office, as it is entirely within the reach, of systematized exercise to modify the growth and distribute the resources of the body so that each particular part shall have its legitimate share, and so to increase these resources that each part of the growing frame shall have its wants supplied.

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SYSTEMATIC EXERCISE.

The one great reason why systematized exercise is not always appreciated or recognized is, that its special nature and object, its susceptibility of gradation to meet the requirements of individuals, and its effect upon the different structures of the human frame, are imperfectly understood. Its effects upon any part but the muscular system are seldom taken into consideration; its vast influence over the other systems, and especially on the organs employed in the vital processes of respiration, circulation, and nutrition, seldom appreciated. The evils arising from this imperfect comprehension of an agent so important to the healthy growth and development of the young are manifold and increasing—increasing in the ratio of man's intellectual advancement; because so long as it is believed that systematized exercise gives but muscular power, gives that and that only, few of those engaged in purely intellectual pursuits would care to cultivate it, even could they do so without effort, and fewer still would give to it that effort which its attainment demands. And that for this simple reason, that great muscular power would be to a man so situated comparatively without value.

But if it can be proved that this muscular power is but one result of systematized exercise, and that not its highest—if it can be shown that properly-regulated exercise can be brought to bear directly upon the other systems of the body, and especially upon the delicate and important structures which encase and contain the vital organs, and on whose fair and full development the health and functional ability of these organs must greatly depend through life, then such exercise takes another rank, becomes as valuable to the man who works with his brain as to him who works with his hands, and will be sought for with a desire proportionate to his intelligence, because it will enable him to prolong and sustain his labors with safety to himself and increased value to his fellow-men. But this culture should be obtained in youth, during the period of the body's growth, when every organ and every limb and every tissue and every bone are advancing to occupy their ultimate place and position—while all is plastic and moving, changing and capable of being changed.

Get the strong limbs and shapely frame, and a little, a very little, will keep them so; get the strong heart and ample lungs set in the fair-proportioned and elastic chest, and a little, a very little, will keep them so—not more than the busiest life can spare, not more than the gravest mind would seek for mental recreation and beguilement—a daily walk or ride, an occasional break into the country with gun or fishing-rod or alpenstock. But if these are no more than sufficient for the healthy and the strong, what hope, what chance remains for those who have been allowed to grow up feeble and imperfectly developed? How can they expect to encounter the wear and tear, the "jar and fret" inevitable in the path of every working man.

MAL-GROWTH.

There are many forms of mal-growth, more or less grave, to be seen in every school, all demanding rectification, all susceptible of being rectified during this period of life by systematized exercise. I would instance particularly pigeon-breast, or undue prominence of the breast-bone, accompanied usually by flatness of the ribs of the upper region of the chest. I have been able to trace this mal-formation of chest to several causes, such as tight clothing during infancy and childhood, and in many instances to the straining coughs which attend what are familiarly called children's complaints, *i. e.*, whooping cough, measles, dentition, etc. Hollow-breast, which is the obverse conformation of pigeon-breast in front, accompanied usually by the same flattening of the ribs. This is usually produced by causes similar to the preceding. Drooping shoulders, sufficiently expressed in its name, and produced by shoulder-straps, or any arrangement of bands or bandages which confined the action of the shoulder-joint in childhood. Stooping, which at the same time implies such a manner of carrying the head and neck and upper portion of the trunk, as that they are not in a line with the rest of the column of the body—the chief evil consequence attending the position being the depression of the upper part of the thorax in front. With these may be named some of the forms of spinal curvature, often proximately due to weakness of the dorsal muscles or to inordinate and unregulated growth. Rapid growth itself, if unattended by relative development, is not only in itself an evil, but is the source of many others. It is no uncommon thing to find a lad at school growing at the rate of six or eight inches in the year. Now it may be stated that the smaller of these numbers is incompatible with fair development and health; the whole resources of the body are drawn in one direction, furthering one process, the upward growth. Nay, when this process is extreme it will be seen to be most intensified up the center of the body, an idea that might seem fanciful were it not almost daily presented to me as a fact.

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The Prisons of Paris.

BY E. P. EVANS.

THE philanthropy of the nineteenth century has nowhere shown itself more truly discerning and far-sighted in its beneficence than in the reforms which it has introduced in the treatment of culprits and in the whole system of modern penitentiary discipline. Weak sentimentalists of all sorts have doubtless tended to bring these humane efforts into contempt by manifesting a morbid and maudlin tenderness toward criminals, which in many cases is hardly distinguishable from sympathy with the crime itself, by losing sight of the rights of law-abiding citizens to protection in life and property, while fixing their "fine eyes" too intently on the wretchedness of the poor fellow whom native temperament or unavoidable circumstance have made the victim of violated law. But in spite of the disgust excited by the false humanity and silly enthusiasm which would transform a prison into a palace and hide the cold, cheerless stones under Brussels carpets and behind hanging tapestries, not only have the improvements in such establishments since the time of Howard been in every respect salutary to society, but the efforts of earnest and clear-minded men in favor of still further ameliorations prove also that much remains to be done before the sensitive spirit of justice and compassion shall rest satisfied. It is, however, a great error, and utterly destructive of the idea of punishment, to increase the comforts and luxuries of jail life to such an extent as to deprive it of all its asperities, and thus actually put a premium upon crime. It is a mere mockery of penalty to provide convicts with spacious apartments and delicate viands, such as they could never have provided themselves with by honest industry on the other side of the wall. In order to show what has been accomplished by enlightened philanthropy in the treatment of criminal classes, we propose to give a brief account of the old prisons of Paris, based upon the most recent and most authentic French authorities.*

The objects, which builders of prisons two centuries ago sought to attain in constructing them, are well symbolized by the word "Liberty" inscribed on the façade of the prisons of Genoa. This word was written over those gloomy portals not in irony, but as an expression of the fact that the incarceration of malefactors insures the liberty of honest men. The prisons of to-day, says Du Camp, bear no more resemblance to the prisons of former centuries than the justice of past ages has to the justice of the present time. Individual freedom, guaranteed by a series of intelligent laws, is no longer at the mercy of tyrannic caprice, even under the most arbitrary of despotisms. *Lettres de cachet* disappeared with the French Revolution. The manner in which individual liberty was trifled with under the old French monarchy would be incredible, were it not authenticated by unimpeachable testimony drawn even from the archives of the State. Official documents, cited by M. Clement, prove that more than one-fifth of the convicts who were liberated from the galleys in 1674, "had served from fifteen to twenty years beyond the term of their sentence." Even the enlightened and humane Henry IV gave secret instructions that convicts should be detained six years, "notwithstanding they had been condemned to imprisonment for a less period of time." Once in the clutches of the law, a man, whether guilty or not, was regarded as a chattel and treated worse than a beast. He was thrown into a dungeon with a promiscuous herd of profligates, cut-throats, idiots, madmen, and the usual concomitants of vermin and filth. Most of those who were thrust into this den fainted as soon as they inhaled its noisome air; some died and were left to decompose there, thus adding the horrors of the charnel-house and the pestilence to the terror of subterranean imprisonment. A manuscript report of a magistrate of the last century, quoted by M. Desmaze, gives the following description of the notorious prison, *For l'Evêque*: "The court is only thirty feet by eighteen, and in this narrow area were crowded from four to five hundred prisoners. The cells, situated under the steps of the staircase, are six feet square, and are designed to contain five prisoners each. The dungeons are on a level with the river-bed, only the thickness of the walls saves them from inundation, and the water constantly filters through

* The above-mentioned authorities are chiefly "*Les Prisons de Paris*," par Jules Simon; "*La Police sous Louis XIV*," par Pierre Clement; "*Les Prisons de Paris*," par Maxime du Camp; "*Histoire du Chatelet de Paris*," par Ch. Desmaze, and "*Mazas*," par Ch. Berriet Saint Prix, an essay on individual imprisonment.

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between the stones. In these places are receptacles about five feet broad and six feet long, and just high enough for a man to creep into; in each of these burrows five persons are inclosed. Even in summer the air enters only through a small opening of three inches above the entrance. These dungeons, having no egress except upon the narrow galleries which surround them, receive no more air than the subterranean receptacles. There is not a breathing hole to be seen anywhere." The report adds that the prisons of *Le Châtelet* are still more horrible and unhealthy. It was in the latter prisons that the Protestant poet, Clement Marot, was confined "for the sake of religion" (as we are told), in the year 1515; after his liberation he composed a poem called "Hell" (*L'Enfer*), which was inspired by the recollection of what he had seen and suffered there.

Previous to the Revolution of 1789, there existed in France three kinds of prisons: royal prisons, seigniorial prisons, and episcopal prisons, all governed by old ordinances dating back to the reigns of Charles IV and Francis I. Imprisonment was never regarded in those days as a penalty, but simply as a means of securing the person of the culprit. It was not puritive but preventive. "Why do you put me in Bastille?" said Bassompierre to Louis XIII. "In order that you may not be in danger of doing evil," replied the King. Truly, the model of a most Christian monarch, full of fatherly solicitude for the moral welfare of his subjects! It was the Legislative Assembly of 1791 that first considered the loss of individual liberty in the light of a punishment, the duration of which was to be in proportion to the gravity of the offense, and divided the prisons into four classes which were supposed to correspond to the needs and requirements of justice: 1. Jails or lock-ups (*maisons d'arset*); 2. Criminal penitentiaries, including galleys, places of solitary confinement, etc.; 3. Correctional penitentiaries; 4. Reform schools intended, or houses of correction designed, for offenders under sixteen years of age, or for minors arrested and confined at the request of their parents. This gradation of penalties and classification of prisons, according to the nature of the crime or the character of the criminal, was a great improvement on the old system. It prevented striplings, who were guilty only of petty larceny or some equally slight violation of law, from being thrown into the society of accomplished and incorrigible villains, and thus educated at the public expense into the most hardened and incurable types of vice and profligacy. Yet, notwithstanding these just distinctions which were made in the category of offenses little or nothing was done to better the condition of the prisons. Even the French Revolution, with all its enthusiasm for liberty, equality, and fraternity, brought no amelioration or relief to this class of community. It broke open and raised the Bastille, not from abhorrence of the old penal system of France, but because the Bastille was a political institution, and, together with the clergy, the nobility, and the Parliament, formed one of the four pillars of the monarchy. Under the Republic "one and indivisible," the prisons were mere sinks and cesspools. In vain the attention of the council of five hundred was called to this subject, nothing was done to ameliorate this deplorable state of things. During the Consulate and the Empire the government was too busy in regulating the affairs of Europe to remedy the moral and physical corruption of these repulsive places. It was not until after the Restoration that a royal ordinance (dated April 9, 1819) was issued, instituting a commission consisting of eminent publicists and jurisconsults, who were instructed to study the regulations of the prisons and to propose such ameliorations as they might deem compatible with public safety. These commissioners continued their functions for ten years, and introduced many excellent modifications in the interior management of prisons, abolishing inhuman punishments, providing warmth, light, sufficient food, and fresh air, enforcing cleanliness, etc. Such reforms were steps in the right direction, and very good so far as they went; but they by no means went to the root of the matter, viz., to the question, not of neutralizing, but of utilizing the lawless and criminal forces of society. Summary decapitation is no doubt the quickest and surest method of neutralization, but it is very far from being the best and truest economy in the long run.

At present there are nine prisons in Paris, only two of which, namely, *Saint Lazare* and *La Conciergerie*, are monuments of the old monarchical régime, and date back to a period previous to the Revolution; the remaining seven, viz., Le Dépôt, Mazas, Sainte Pélagie, La Santé, La Petite Roquette (a kind of house of correction), La Grande Roquette (a prison for persons condemned to death or the galleys), and Clichy (the debtor's prison), are all establishments of the present century. As soon as a culprit passes the threshold of the prison, a careful descriptive record is made of his person, his clothes, his social rank and calling, a copy of the sentence; with the date of its beginning and the time of its duration. He is then labeled with a

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number, by which he is henceforth to be called (his real name is never spoken in the prison); after which he is put into a bath (often a very necessary operation), and clothed in the gloomy garb of the penitentiary and conducted to his cell. The garments which he wore to the prison are thoroughly fumigated with sulphur, in a room known officially as the disinfecting chamber (*la chambre de désinfection*). It would be difficult to find in Jewry, or in the Ghetto, such varieties of ragged habiliments as are here presented to the view, hanging in clouds of sulphurcus smoke that seizes you by the throat and brings tears into your eyes. After twenty-four hours exposure to these intense fumes, when it is supposed that every creeping thing on the poor tatters has been destroyed, and every vestige of animated nature has disappeared from them, the apparel of each prisoner is folded with care, wrapped up in coarse packing cloth, numbered, and deposited by itself. Nothing can give a more fearful picture of utter destitution and degradation than these little packages of clothing, shoes, hats, trousers, etc., in all stages of dilapidation, and some of them still reeking with intolerable odors, of which not even the purgatory of burning sulphur has been able entirely to purify them.

Mazas, which was built between 1841 and 1850, may be taken as a representative of French cellular prisons. It consists of a large circular wall with a rotunda in the center of the inclosed area, the two being connected by eight detached buildings like spokes of an immense wheel, of which the rotunda corresponds to the hub and the outer circular wall to the tire and felloes. In these isolated buildings are the cells, every one of which is visible to the guards stationed in the center of the rotunda. The average number of prisoners is about twelve hundred. They are guarded night and day by sixty-two keepers, who are under the command of a brigadier, assisted by seven subalterns. The system of solitary confinement is not so vigorously carried out in French prisons as in those of our own country. Although adopted in principle in Mazas, it is so modified and mollified in practice as to be robbed of its chief horrors, or at least of its most shocking inhumanities. Society has the right to protect itself against malefactors by depriving them of their liberty, or even perhaps of their life, but it certainly has no right to adopt toward them any treatment that will tend inevitably to wreck them in mind and body and reduce them to a condition of imbecility and incurable idiocy. This moral limit to penalty is nowhere more clearly and carefully recognized than in the administration of the French prisons which are conducted on what is known as the Philadelphian system. Solitude for life, without ever hearing a human voice or seeing the hand that provides the daily rations of food, does not strike the common eye so terribly as the darkness and fetters and filth that characterized the dungeons of the old régime. Reflection is essential to a comprehension of its real horror. And we can easily understand how a thinker, like Mr. John Stuart Mill, should favor capital punishment as less severe and more humane than this perpetual isolation from mankind, which is only a system of gradual brutalization.

Sainte Pélagie and *Saint Lazare* (the former for men and the latter for women) are conducted on what might be called the sociable, in distinction from the solitary system. The consequence is that these establishments are precisely what Sydney Smith nearly half a century ago said the English prisons were, namely, large schools, maintained at the public expense, for the encouragement of vice and for providing the community with an inexhaustible supply of burglars, thieves, profligates, and murderers, schools in which the youth who evinces the slightest propensity for these pursuits, is put to his studies under the most accomplished villains and cut-throats that the country can furnish, in order that, as soon as he regains his freedom, he may be fully prepared to enter upon a career of bold and successful crime. The result of this promiscuous intercourse of all classes of malefactors, by night and by day, in dormitories and in workshops, is a moral corruption surpassing all conception. A few years since, a clandestine correspondence of the prisoners with each other fell into the hands of the warden, and was laid before a magistrate in answer to his inquiries as to the condition of the prison. The picture of depravity which these communications revealed, was disgustingly beyond all description. Still more lamentable, if possible, is the condition of the women in *Saint Lazare*. Every young girl, whom some slight offense has caused to be committed to this place, comes out from it irremediably vicious and corrupt in every fiber of her moral being. "Only a miracle," says M. Du Camp, "can save her, and the age of miracles is passed." It is like a hospital in which there are no separate wards for contagious diseases, but where the whole atmosphere is impregnated with infection. The Prefect of Police has, since 1842, periodically protested against this state of things, but the Municipal Council of Paris has as uniformly pleaded poverty as an excuse for

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inaction. "Alas!" says a recent French writer, "that a city with so many magnificent and useless barracks, so many new and splendid churches which gratify the vanities of external morality, has not a single house of refuge, where young girls, whom a moment of forgetfulness has caused to fall, and who ought to be saved at any price and restored to virtue and to the family, could find a shelter for repentance and reformation apart from common prostitutes and incorrigible thieves! But so it is with us in France; provided we may have the superfluous, we can cheerfully do without the necessary." In this respect, however, the boys are better provided for than the girls, since they have a special establishment set apart for them, viz., *La Roquette*, in which are confined culprits under sixteen years of age, many of whom are received here for correctional purposes upon the accusation of their own parents. This latter class wear red numbers to distinguish them from the remaining prisoners whose numbers are black. In the month of June last, there were 151 inmates of *La Roquette*, 82 of whom were shut up there at the request of their parents, who in many cases, no doubt, accuse their children falsely of peccadilloes, for the purpose of having them kept at the public expense and instructed in reading and writing—a significant commentary on the domestic life of the lower classes in Paris.

All the prisons in Paris are also provided with libraries, to the increase and maintenance of which a sum of five hundred dollars is devoted annually by the Brefecture of Police. The books most in demand are the novels of Sir Walter Scott and J. Fennimore Cooper, books of travel and adventure, etc.; historical and scientific works are seldom called for, and treatises on morals and religion remain almost wholly untouched, as their immaculate leaves and covers indicate. Many of the books contain marginal notes in pencil, as well as drawings, of a character not suggestive of high artistical or ethical attainments on the part of the prisoners.

Spurs and Reins for those who Need them.

BY J. E. SNODGRASS.

PLATO is represented as remarking of two of his scholars, Zenocrates and Aristotle, that the former needed spurs and the latter reins.

Here we have the types of the greater part of mankind, and in contemplating them we discover the secret of the discordant state of society as it is. What else explains the disagreement which has ever been manifested between the "Conservatives" and the "Progressives"—the one class holding back, the other rushing forward, with a mutual persistence which is as mutually condemned and denounced?

Could we, in some way, put a spur, now and then, in the flank of the "Conservative," and a rein upon the neck of the "Progressive," it might prove a lucky arrangement for society at large, and help the race in that progress born of radical thought, but considerate action—which is the only true progress.

The same is true of individual habits.

Some persons are too "fast," not merely in the popular meaning of that phrase, but otherwise. Metaphorically speaking, these need reins.

Others are too slow when duty calls to action, because of indolence or timidity, or of both, not to mention want of principle, and therefore they need spurs.

The purpose of the series of laconic essays, commenced below, is to furnish "Spurs and Reins for such as need them." If any of my readers feel sure they don't need them, they will please leave them for the benefit of somebody else who does.

LOST DAYS.

A Roman Emperor, on reviewing the occurrences of a certain day, exclaimed, "*Diem perdidi*"—I have lost a day! A consciousness that he had not performed a single good deed, during the hours that made up that day caused the exclamation. That was certainly a sufficient reason for the feeling to which he gave utterance. It would be a sufficient reason for persons holding far less influential positions than an Emperor's. We were about to add, "and therefore less responsible." But we do not know that the responsibility for time lost, which attaches to us all, can be lessened or increased,

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strictly speaking, by our position. Certainly, in a primary sense, it can not be, for we all have our duties to perform. These each day brings with it. They are our individual duties. Nobody else can perform them for us. We need not specify what these duties are. Suffice it to say that they may be summed up in the very converse of the self-confession of the Emperor: "I have *not* lost this day. I am conscious of having used its precious minutes in deeds of usefulness, and I have reason to believe that the world is the better for my having lived twenty-four hours longer!"

Here we have the rule: The use of our time to the best possible advantage, so as to perform each the duties of his own earthly mission, in his own sphere, to the best of his abilities and opportunities. If all would study and practice this rule, there would be no need of the confession, "I have lost a day!" And a solemn consideration that is, when we come to reflect upon its consequences.

Truly saith the proverb, "Time and tide wait for no man." And since every day brings its own work, there is no way in which our "lost days" can be reclaimed!

"NO."

That is a small word. It was quickly written, almost as quickly put into type. It is very easily pronounced in a sentence. But, of all the words in our English vocabulary, there is none so difficult to utter under circumstances not a few, as "no."

Young man, you know this to be true—true to your sorrow, it may be. Is it not so? Recall the transactions of the past year, of the past month, of the past week, nay, of even the past day, and answer me frankly!

When asked to indulge in some extravagance or frivolity, not to say vice or crime, by your schoolmates or social companions, did you find it easy to say "no?" Did not your tongue falter? Did it not, in Scripture phrase, cleave to the roof of your mouth? Mentally, you answer "yes"—for you will not dare to say "no" to these questions.

Learn, then, to use the little word "no." Get it literally "by heart." Its prompt use will save your feet from many a snare set for the unwary. Let it become a habit with you to say "no" promptly and without a moment's hesitation, and all will be well, where, otherwise, all would be ill.

But not to the young alone, is "no" a word of importance. The want of its prompt utterance has been the ruin of many a family, showing how much of weal, or woe, hangs upon a little word!

When you were urged by your vain wife, or your vainer daughter, to change your customary mode of life—living, as you then were, within your income—to move into a more fashionable locality, then would have been the time to say "no." But you hesitated, and advantage was taken of your want of firmness. That was the moment from which your pecuniary ruin dated. A word would have saved you—that little word was "no."

You were asked to indorse for a friend—perhaps to indorse a note in blank—or to draw a check in the same reckless form. You said "yes"—or what is the same thing, or worse, you said nothing. You were mum. You signed it because you had not schooled yourself to say "no." That act ruined you, financially!

See to it, henceforward, that you are ready, when needed, to say "no!"

BAD HABITS IN THE EGG.

Man is said to be a creature of habit. There is no harm involved in this fact, necessarily, if it be so—that is, if his habits turn out to be good ones. But supposing they are bad ones, how is he to get rid of them? That is a question more easily asked than answered satisfactorily, especially if it have reference to long-established habits—"confirmed habits," as we generally express it.

Bad habits should be taken in the bud. Then they are not so hard to destroy as afterward. To change the figure, they should be taken in the egg. To enforce, more fully, the comparison I have in view, I will give a fable. It is nothing new, but it will be not the less instructive because perhaps familiar to some of my readers. It is that of the ichneumon and the crocodile.

A crocodile of unusual size and voraciousness, according to the fable, made its appearance on the banks of the Nile. It spread terror throughout the neighborhood with its destructiveness. It devoured not only the flocks, but even their shepherds. Various were the plans, suggested by one and another, for its destruction. But they all failed.

At length the alarm became so great and general, that a meeting of the sufferers was called for consultation. While the people were in their dilemma, some one mentioned the ichneumon, as an animal known to be very destructive of crocodiles. Being called for, he came forth, and addressed the meeting thus:

"It is true that I have been useful in keeping down the numbers of the crocodiles. But you

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have mistaken my sphere of action. I am a very small animal, as you see. I can do nothing with such a monster as that! You should have called on me sooner. But, though I can not be of any service to you in the present emergency, I will give you a piece of advice which may be of service in the future:

"It may be a glorious achievement to overcome a great evil, but it is the part of wisdom to prevent it, or at least to attack it in the beginning. You feel a contempt for the crocodiles while they are young. Now you dread and fly from them. Small and feeble as I am, I have been more useful in the business of their destruction than you. My plan is, *to attack them in the egg.*"

So it should be with bad habits. They should not be suffered to grow into crocodile-like monsters. It is difficult to destroy them, then. They should be attacked "in the egg."

But I need not trouble to make a profitable application of this fable to my subject. It is done already in the following lines:

"This fable, dear friend, is intended to show
The danger of suffering bad habits to grow;
The fault of a week may be conquered, 'tis clear,
Much easier than if it went on for a year!"

A TOCSIN FOR THE TIMES.

This is the tocsin which, more than all others, I delight to sound: "Educate, Educate!" Not in any narrow or exclusive sense of the word, but in the widest sense conceivable. Educate physically, mentally, morally, religiously, every way! Expand the mind. Expand the heart. Expand the soul. There is no fear of educating the people too much, so long as their teachers, in youth or in age, are wise and good.

Nature may have been bountiful. She may have been even profuse to prodigality, and shown seeming partiality in her bestowals of intellectual capacity. But still it requires education to call forth and direct aright the powers of the mind.

A few, among such as have neglected educational appliances when young, have made up for their loss, in some degrees, when grown to manhood or womanhood. But they depended on education at last. It may have been mainly self-education—that is, education without assistance from personal teachers—but it was education of some sort, after all.

When, on a certain occasion, Dyonysius, the Syracusian tyrant, insisted upon being instructed in geometry, by Archimedes, according to some easier and more rapid method than that in vogue, the philosopher is said to have replied, "There is no royal road to science." Truer word never was spoken by human lips, ancient or modern.

We have seen that nature can not enable us to dispense with instruction. The same is true of money. Wealth may pay for education. It can buy no substitute. Educate, then, educate, educate!

Oh, ye hitherto inconsiderate fathers and guardians! let me realize that I have indeed spoken unto wise men, by heeding what I say, when I again ring, in your ears, this "tocsin for the times:" EDUCATE! EDUCATE!! EDUCATE!!!

LATIN AND GREEK.—I can not doubt that were the Greek and Latin languages and literature annihilated and forgotten, the progress of the world in thought, to say nothing of science and material form, would not be perceptibly retarded. Language is the creature more than the creator of mind. Thought will make its expression. The disuse of a modern language and the substitution of another will not necessarily change the mental power nor the temperament of a people. If the millions of Germans and from other nationalities in America adopt the English language as the vernacular speech of their children, they will still have the same temperament, and may reach the same culture that they might have had with their old languages. So there is no magical incommunicable power about the Greek and Latin that can not possibly be reached in any other way.—*Pres. E. O. Haven.*

THE MUSIC OF THE FUTURE.—Will there ever be a distinctly American music? When the present various forms of national life are molded into a homogeneous American people, there will be a native music. All the nationalities of the earth are gathered here; lively France sends us her songs; solid England brings its carol; Italy brings her wonderful power of melodizing love and joy; the native melodies of Germany, Scotland, and Ireland all swarm into the New World. When all these characteristics are lost from view, the people so created will have a music that shall be as original as man. The nationalities are all welcome. This country's great idea shall reduce them all to harmony; their life-blood shall drop in new melodies wrung from them by toil, and the land shall be full of melody, over mountain, and prairies, and by either sea.—*John Weiss.*

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OUR STUDIES IN PHYSIOLOGY.

SECOND STUDY.

1. ALMOST all parts of the body are vascular; that is to say, they are traversed by minute and very close-set canals, which open into one another so as to constitute a small-meshed network, and confer upon these parts a spongy texture. The canals, or rather tubes, are provided with distinct but very delicate walls, composed of a structureless membrane, in which at intervals small oval bodies, termed nuclei, are imbedded.

These tubes are what are termed the capillaries. They vary in diameter from one-fifteen-hundredth to one-twenty-hundredth of an inch; they are sometimes disposed in loops, sometimes in long, sometimes in wide, sometimes in narrow meshes; and the diameters of these meshes, or in other words, the interspaces between the capillaries, are sometimes hardly wider than the diameter of a capillary, sometimes many times as wide. These interspaces are occupied by the tissue which the capillaries permeate, so that the ultimate anatomical components of every part of the body are, strictly speaking, outside the vessels, or extra-vascular.

But there are certain parts which, in another and broader sense, are also said to be extra-vascular or non-vascular. These are the epidermis and epithelium, the nails and hairs, the substance of the teeth, and the cartilages; which may and do attain a very considerable thickness or length, and yet contain no vessels. However, as we have seen that all the tissues are extra-vascular, these differ only in degree from the rest. The circumstance that all the tissues are outside the vessels by no means interferes with their being bathed by the fluid which is inside the vessels. In fact, the walls of the capillaries are so exceedingly thin that their fluid contents readily exude through the delicate membrane of which they are composed, and irrigate the tissues in which they lie.

THE CAPILLARIES.

2. Of the capillary tubes thus described, one kind contains, during life, the red fluid, blood, while the others are filled with a pale, watery, or milky fluid, termed lymph, or chyle. The capillaries, which contain blood, are continued on different sides into somewhat larger tubes, with thicker walls, which are the smallest arteries and veins.

The mere fact that the walls of these vessels are thicker than those of the capillaries constitutes an important difference between the capillaries and the small arteries and veins; for the walls of the latter are thus rendered far less permeable to fluids, and that thorough irrigation of the tissues, which is effected by the capillaries, can not be performed by them.

The most important difference between these vessels and the capillaries, however, lies in the circumstance that their walls are not only thicker, but also more complex, being composed of several coats, one of which consists of muscular fibers, which are directed transversely, so as to encircle the artery or vein. This coat lies in the middle of the thickness of the wall of the vessel; inside it, and lining the cavity of the vessel, is a layer of very delicate, elongated, epithelial cells. Outside the muscular layer is a sheath of fibrous tissue. The muscular fibers themselves are flattened, spindle-shaped bands, each with an elongated rod-like nucleus in the middle. When these fibers exercise that power of contraction, or shortening in the long, and broadening in the narrow directions, they, of course, narrow the caliber of the vessel, just as squeezing it in any other way would do; and this contraction may go so far as, in some cases, to reduce the cavity of the vessel almost to nothing, and to render it practically impervious.

ARTERIAL CONTRACTION.

The state of contraction of these muscles of the small arteries and veins is regulated, like that of other muscles, by their nerves; or in other words, the nerves supplied to the vessels determine whether the passage through these tubes shall be free and wide, or narrow and obstructed. Thus while the small arteries and veins lose the function of directly irrigating the tissues which the capillaries possess, they gain that of regulating the supply of fluid to the irrigators, or capillaries themselves. The contraction, or dilatation, of the arteries which supply a set of capillaries, comes to the same result as lowering or raising the sluice-gates of a system of irrigation canals.

3. The smaller arteries and veins severally unite into, or are branches of, larger arterial or venous trunks, which again spring from still larger ones, and these, at length, communicate by a few principal arterial and venous trunks with the heart.

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DIFFERENCE BETWEEN ARTERIES AND VEINS.

The smallest arteries and veins, as we have seen, are similar in structure, but the larger arteries and veins differ widely; for the larger arteries have walls so thick and stout that they do not sink together when empty; and this thickness and stoutness arises from the circumstance that, not only is the muscular coat very thick, but that, in addition, a strong coat of highly elastic fibrous substance is developed outside the muscular layer. Thus, when a large artery is pulled out and let go, it stretches and returns to its primitive dimensions almost like a piece of india-rubber.

The larger veins, on the other hand, contain but little of either elastic or muscular tissue. Hence, their walls are thin, and they collapse when empty.

VALVES OF THE VEINS.

This is one great difference between the larger arteries and the veins; the other is the presence of what are termed valves in a great many of the veins, especially in those which lie in the muscular parts of the body.

4. These valves are pouch-like folds of the inner wall of the vein. The bottom of the pouch is turned toward those capillaries into which the vein opens. The free edge of the pouch is directed the other way, or toward the heart. The action of these pouches is to impede the passage of any fluid from the heart toward the capillaries, while they do not interfere with fluid passing in the opposite direction. The working of some of these valves may be very easily demonstrated in the living body. When the arm is bared, blue veins may be seen running from the hand, under the skin, to the upper arm. The diameter of these veins is pretty even, and diminishes regularly toward the hand, so long as the current of the blood, which is running in them, from the hand to the upper arm, is uninterrupted.

But if a finger be pressed upon the upper part of one of these veins, and then passed downward along it, so as to drive the blood which it contains backward, sundry swellings, like little knots, will suddenly make their appearance at several points in the length of the vein, where nothing of the kind was visible before. These wellings are simply dilatations of the wall of the vein, caused by the pressure of the blood on that wall, above a valve which opposes its backward progress. The moment the backward impulse ceases the blood flows on again; the valve, swinging back toward the wall of the vein, affords no obstacle to its progress, and the distension caused by its pressure disappears.

The only arteries which possess valves are the primary trunks—the aorta and pulmonary artery—which spring from the heart, and they will be best considered with the latter organ.

THE LYMPHATIC SYSTEM.

5. Besides the capillary network and the trunks connected with it, which constitute the blood-vascular system, all parts of the body which possess blood capillaries—except the brain and spinal cord, the eyeball, the gristles, tendons, and perhaps the bones*—also contain another set of what are termed lymphatic capillaries, mixed up with those of the blood-vascular system, but not directly communicating with them, and, in addition, differing from the blood capillaries in being connected with larger vessels of only one kind. That is to say, they open only into trunks which carry fluid away from them, there being no large vessels which bring any thing to them.

These trunks further resemble the small veins in being abundantly provided with valves which freely allow of the passage of liquid from the lymphatic capillaries, but obstruct the flow of any thing the other way. But the lymphatic trunks differ from the veins, in that they do not rapidly unite into larger and larger trunks, which present a continually increasing caliber and allow of a flow without interruption to the heart.

On the contrary, remaining nearly of the same size, they, at intervals, enter and ramify in rounded bodies called lymphatic glands, whence new lymphatic trunks arise. In these glands the lymphatic capillaries and passages are closely interlaced with blood capillaries.

THE THORACIC DUCT.

Sooner or later, however, the great majority of the smaller lymphatic trunks pour their contents into a tube, which is about as large as a crow-quill, lies in front of the backbone, and is called the thoracic duct. This opens at the root of the neck into the conjoined trunks of the great veins which bring back the blood from the left side of the head and the left arm. The remaining lymphatics are connected by a common canal with the corresponding vein on the right side.

Where the principal trunks of the lymphatic system open into the veins, valves are placed, which allow of the passage of fluid only from

*It is probable that these exceptions are apparent rather than real, but the question is not yet satisfactorily decided.

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the lymphatic to the vein. Thus the lymphatic vessels are, as it were, a part of the venous system, though, by reason of these valves, the fluid which is contained in the veins can not get into the lymphatics. On the other hand, every facility is afforded for the passage into the veins of the fluid contained in the lymphatics. Indeed, in consequence of the numerous valves in the lymphatics, every pressure on, and contraction of, their walls, not being able to send the fluid backward, must drive it more or less forward, toward the veins.

6. The lower part of the thoracic duct is dilated, and is termed the receptacle or cistern, of the chyle. In fact, it receives the lymphatics of the intestines, which, though they differ in no essential respect from other lymphatics, are called lacteals, because, after a meal containing much fatty matter, they are filled with a milky fluid, which is termed the chyle. The lacteals, or lymphatics of the small intestine, not only form networks in its walls, but send blind prolongations into the little velvety processes termed *villi*, with which the mucous membrane of that intestine is beset. The trunks which open into the network lie in the mesentery (or membrane which suspends the small intestine to the back wall of the abdomen), and the glands through which these trunks lead are hence termed the mesenteric glands.

7. It will now be desirable to take a general view of the arrangement of all these different vessels, and of their relations to the great central organ of the vascular system—the heart.

All the veins of every part of the body, except the lungs, the heart itself, and certain viscera of the abdomen, join together into larger veins, which, sooner or later, open into one of two great trunks termed the *superior* and the *inferior vena cava*, which debouch into the upper, or broad end of the right half of the heart.

All the arteries of every part of the body, except the lungs, are more or less remote branches of one great trunk—the *aorta*, which springs from the lower division of the left half of the heart.

ARTERIES OF THE LUNGS.

The arteries of the lungs are branches of a great trunk springing from the lower division of the right side of the heart. The veins of the lungs, on the contrary, open by four trunks into the upper part of the left side of the heart.

Thus the venous trunks open into the upper division of each half of the heart—those of the body in general into that of the right half; those of the lungs into the upper division of the left half; while the arterial trunks spring from the lower moieties of each half of the heart—that for the body in general from the left side, and that for the lungs from the right side.

Hence it follows that the great artery of the body, and the great veins of the body are connected with opposite sides of the heart; and the great artery of the lungs and the great veins of the lungs also with opposite sides of that organ. On the other hand, the veins of the body open into the same side of the heart as the artery of the lungs, and the veins of the lungs open into the same side of the heart as the artery of the body.

The arteries which open into the capillaries of the substance of the heart are called coronary arteries, and arise, like the other arteries, from the aorta, but quite close to its origin, just beyond the semilunar valves. But the coronary vein, which is formed by the union of the small veins which arise from the capillaries of the heart, does not open into either of the venæ cavæ, but pours the blood which it contains directly into the division of the heart into which these cavæ open—that is to say, into the right upper division.

VEINS OF THE ABDOMEN.

The abdominal viscera referred to above, the veins of which do not take the usual course, are the stomach, the intestines, the spleen, and the pancreas. These veins all combine into a single trunk, which is termed the *vena portæ*, but this trunk does not open into the *vena cava inferior*. On the contrary, having reached the liver, it enters the substance of that organ, and breaks up into an immense multitude of capillaries, which ramify through the liver and become connected with those into which the liver called the hepatic artery, branches. From this common capillary mesh-work veins arise, and unite, at length, into a single trunk, the hepatic vein, which emerges from the liver, and opens into the *inferior vena cava*. The portal vein is the only great vein in the body which branches out and becomes continuous with the capillaries of an organ, like an artery.

FEEDING HORSES.—Rack feeding is wasteful. The better plan is to feed with chopped hay from a manger, because the food is not then thrown about and is more easily chewed and digested.

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EDITORIAL DEPARTMENT.

Herald of Health AND Journal of Physical Culture
Advocates A Higher Type of Manhood, Physically, Intellectually, and Morally

NEW YORK, FEBRUARY, 1870.

WATER.

"To the days of the aged it addeth length;
To the might of the strong it addeth strength;
It freshens the heart, it brightens the sight;
'Tis like quaffing a goblet of morning light."

☞ THE PUBLISHERS *do not hold themselves as indorsing every article which may appear in* THE HERALD. *They will allow the largest liberty of expression, believing that by so doing this magazine will prove to be more useful and acceptable to its patrons.*

☞ *Exchanges are at liberty to copy from this magazine by giving due credit to* THE HERALD OF HEALTH AND JOURNAL OF PHYSICAL CULTURE.

TOPICS OF THE MONTH.

BY M. L. HOLBROOK, M. D., EDITOR.

DEATH OF EDWIN M. STANTON.—The Irish orator, Henry Grattan, in his celebrated description of the elder Pitt, has two brief sentences which, for several years past, have seemed to us a happy delineation of the heroic man whose recent death gave such a shock to the whole nation: "THE SECRETARY STOOD ALONE. MODERN DEGENERACY HAD NOT REACHED HIM."

Stanton was, by universal consent, THE SECRETARY. Had he lived to take upon him the silken robes of a Justice of the Supreme Court, the old name, Secretary Stanton, would long have clung to him. It would have been hard for us to call him "Judge." Quite aside from the fact that his impetuous, fiery, and energetic nature did not suggest the possession of judicial attributes, our mouths had long grown used to the simple title under which he towered to greatness; and it would have given a sort of jealous pain to us to have laid aside the grand old name even for a grander new one. So, as THE SECRETARY he goes into the great scroll of history. And the latest generations, gazing upon the record of the titanic events which filled our time, and reviewing the solitary grandeur of this man's career during the war, and the antique style of his patriotism, will be able to feel, even more than we can, the sublime fitness of Grattan's words, in their transposed application: "The Secretary stood alone. Modern degeneracy had not reached him."

There are some men who seem to be the peculiar instruments of Providence. There was that about Secretary Stanton which made him seem so to millions of minds in America. Without uttering the jargon of religious cant, without even the ordinary public profession of religious belief, he impressed all good men who approached him with the idea of a devotion to his work that was in the most genuine and awful sense of the phrase, religious. The idea of the nation's safety through fierce, aggressive, victorious fighting amounted, in his case, to an inspiration. He not merely held it; he was possessed by it. Accordingly many of his sentences in official orders, and even in private conversation, had the poetry, the passion, the lyrical movement, the irresistible divine force of an old Hebrew prophet's burden. The spirit of the Lord was upon him. The way to be taken, however dark and dubious to others, was all luminous and sure to him. He had no doubts of his own to solve; and this gave him a certain harsh, inevitable impatience with the doubts of others. The invisible sword of the Lord was intrusted to him. He waved it over the hosts of the people, and by the light and the fury of

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its flashing they were to move onward against the traitors, and to trample them to the earth. That was his conscious mission. His mighty lion-heart beat so fiercely, as he sat in the War Office, that its throbbings were felt by the most distant army and general in the field. He was a reservoir of advancing vehemence for the supply of half a million of soldiers. They who stood near him, at times complained of the roughness and the seeming madness of his energy; but they forgot that he was the incarnation of the energy of a whole nation. How tremendous was the outcry of his joy when a grand deed was done! What immortal rapture there was in his congratulation of a daring and successful soldier! How terrific was his rage over a cowardly, an imbecile, an indolent act! Some people thought these expressions of his too impassioned to be in good taste. But his joy, his congratulation, his rage, were on a scale of magnitude and intensity not adapted to the dimensions of a fashionable drawing-room, but to the colossal compass of a whole hemisphere rocking with the earthquake of war.

On hearing of the sudden death of Mr. Stanton, perhaps many of us felt a pang of disappointment at his being taken away so soon, and especially before enjoying the possession of the exalted office into which he would have been inducted in a few days. Yet further reflection will convince us that even his death was fortunate. A great historic character gains by its unity. Stanton's career as a herculean War-minister was ended. Even high success upon the judicial bench, had that been possible to one of his stormy temperament, would have taken away somewhat from that severe unity of renown with which he now takes his place among the immortals. He lived long enough to see the completeness of his own victorious work, to behold the dawning of a better day for his country, to receive at the hands of the President and of the Senate the gift of a stately office, and to hear in the congratulations of his countrymen over that appointment the prophecy of his perpetual praise. Nothing could have been added to the supremacy of his fame or of his felicity by larger life; and, now, death consecrates him! Death shuts the gates upon envy! Death saves him from the chances of the future! Death rescues him from the bickerings and the violences of further political strife. The gods have rewarded this hero of a valiant life with the infinite guerdon of a fortunate death! He is no longer ours, either to praise or blame! He is securely in the custody of

"all that regiment of muffled years
Now huddled in the rear and skirts of time."

We make no apology to any reader for this tribute to Edwin M. Stanton. Indeed we are not in the habit of making apologies for any thing which we deliberately do in the discharge of our editorial duties. But in thus speaking of the great Secretary, we conceive ourself to be directly promoting the avowed purpose of this journal. To advocate a Higher Type of Manhood—Physically, Intellectually, Morally: that is our business. By that inscription we are limited to no contracted scope of thought and labor. In fact, our mission is as comprehensive as the nature of man and the interests of human society. And how better can we inculcate a higher type of manhood than by pointing our readers to such illustrious examples of that higher type as Providence occasionally bestows upon the world! We point to Edwin M. Stanton as to a magnified human figure—a brilliant and conspicuous embodiment of the higher manhood of our race.

And, in his life and death, there are two lessons which connect themselves especially with our teachings concerning the value of health.

The first is given to us in his endurance of the appalling labors and excitements of the War Office. He had passed the meridian line of life when he entered upon that office. He had been endowed at the outset of life with a superb physical constitution. Now, if he had squandered his health—dissipating the endowment of corporeal vigor which Nature gave him—he could never have borne the toils of his great career. He would have broken down under

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them. On the *little* item of good health, then, preserved by a life of wholesome and temperate conduct, rested not only the possibility of his great historic renown, but of his beneficent patriotic service. Let young people linger over this simple health-lesson! Cherish health as the very life-element both of greatness and of usefulness. With weak and sickly bodies, even great souls must decline the inspiring calls of opportunity!

But Stanton died at last from the effects of over-work. Yes, even he broke down and perished untimely under the assaults of labor and care. And here is an instance in which the sacrifice of health was not sinful but holy! How often we are forced to look upon men wrecked in health and life by ignoble causes, by sensual excesses, by intemperance in eating and drinking, by unnecessary devotion to money-getting! In all such cases, we raise our voice, and we say, This is suicide, and therefore sin. Mark the magnificent contrast presented by the case of Stanton. His death was not suicide; it was martyrdom, and therefore noble! That is the second lesson. There are objects for which we have a right to sacrifice health!

Do Animals Progress.—The old theory is that animals do not progress mentally as do human beings, but this doctrine is probably not correct. Animals brought under domestication are superior to those that are wild, as in the case of the wild dog and horse. The influence of the improved condition of the earth over that of ancient times, makes it possible for a higher type of animals and plants to live, and do we not have them? Who does not believe that the animals of the present geological age are superior in intellect to those, for instance, of the miocene age? A writer in "Nature" says that

"The fear of man is a slowly-acquired instinct. Mr. Darwin, in his account of his travels, gives some interesting instances of the fearlessness of birds little exposed to man in South America. The crew of Byron's vessel were astonished at the manner in which the wolf-like dog of the Falkland Islands approached them merely out of curiosity. Compare these traits with the admirably organized expeditions for the plunder of baboons, elephants, etc., and the rude customs acted upon for self-preservation of the half-wild dogs of the Peninsula and the East, wherein the care of the weak and young, the usefulness of sentries, the value of signals, the difference between sham and real danger, and the advantage of confusing traces of retreat, seem all to be known, and it will be pretty evident that man, the thinker, has to a considerable extent reacted on animals wild and domestic. Even in my own quarter it is the steady belief of the shepherds that the common sheep-dog has progressed in intelligence and docility within the last fifty years by careful selection. 'Where the dog is not valued for intelligence, as in some Eastern countries, it is a much more stupid animal than with us.'"

Education.—Not the least interesting portion of the Message of Governor Hoffman to the State Legislature, is that referring to the public schools of New York as a State. By this document it appears that more than six millions of dollars were expended last year in payment of the salaries of teachers. Nearly ten millions have been disbursed in support of the institution in various ways. This is certainly a liberal expenditure, and shows that the Empire State is not devoid of a lively sense of the importance of training the masses, and protecting them from the unrelenting ills of ignorance, that fruitful source of vice and crime.

A glance at the statistics of Pennsylvania, as afforded by the Governor of that State, shown an expenditure of little more than three millions and a half for teachers' wages; total cost of the public schools rather less than seven millions. More than eight hundred and fifteen thousand children attend the public schools of Pennsylvania, and something more than a million in the State of New York. In both States it is to be regretted that a great number of children do not attend any schools.

Governor Hoffman remarks:

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"These facts show the great proportions to which our common school system has grown. There may be defects in it, but taken as a whole, it commands and receives the hearty commendation and the cordial support of the great body of the people. Under our form of government, in which the voice of the people is so potential, the State has a direct interest in so educating the masses that they may intelligently understand their duties as citizens; and no tax should be paid more cheerfully than that which enables all, without reference to station or condition, to acquire the rudiments of a good English education. The Legislature should do all in its power to sustain and perfect a system which aims to accomplish this result."

We regard THE HERALD OF HEALTH as a great educator. While our public schools are aiming to teach the child, we are doing all that in us lies to teach the parent how to think wisely and well, and how to work honorably and with profit. We hold no mean nor insignificant position in the great, voluntary school of public teachers, in which we contend that an honest editor ought to enrol himself.

BABY DRESSING.*—The practice of enveloping our little ones in a series of firm bands for several months, seems to me a remnant of the days of swaddling cloths.

But, as we do not use the salt to which the Prophet alludes, and as we do wash and dress our babies every day instead of letting them lie swathed and salted for seven days, it seems to me best to devise some way of dispatching the business so that they will enjoy it.

A lady once said to me, "Your baby seems to take washing and dressing as one of the pleasures of life," to which I replied, "And why should she not?" "But," she added, "I should be afraid she would grow out of shape, her clothes are so loose."

Kittens, colts, and lambs are not bound up, and why should babies be, unless they are deformed?

*From advance sheets of Mrs. Dr. R. B. Gleason's book, in press of Wood & Holbrook, to be ready in March.

For a band next the body we prefer one thickness of flannel, it being more elastic, will fit the form better than one of double linen and is more easily adjusted. In ordinary cases this need be worn but a week or ten days. As to the little shirt, we never like those long strait strips which are always out of place, unless held in place by shirt-bands. A sack, firm, with a fine cord at the neck, which can be drawn up or out as size requires, is preferable. Those of knit worsted are very nice, but in lack of those, make them of fine cotton; linen is too cool for our climate.

Next, the foot blanket, as it is called, should be a width of flannel, three-fourths of an inch in length, plaited at the top and bound with a broad tape, so as to tie about the hips just above the napkin. Thus adjusted, it is easily removed if soiled.

As to the petticoat, we always considered those broad, unyielding bands a tax on the patience of the nurse, and a sort of discomfort to the baby. To put pins through the fine, firm muslin, so that they will scratch you or the baby, and have the band just tight enough to keep in place, and not too tight for the baby's comfort—to do all this, while the victim cries and the mother worries, requires more skill than for a surgeon to dress a wound, especially if his subject has taken chloroform. I have often heard ladies say the bands in which babies are bound were a bother, but then what should they use? Let the shirt be gored, making the top half the size of the bottom. Lay plaits at the back and front, and bind with flannel-ribbon; make a little arm size and shoulder strap of the same. The plaits may be stitched down for four or five inches, so as to fit the form loosely. Tie this behind at the top and three inches below. If the baby is restless or has the colic, you can, without undressing it, carry the hand up under the clothing and rub the back or stomach and bowels to their great relief.

As to high neck and long sleeves, I need not advise those, because they are just now in fashion, good sense and good style being now in "sweet accord."

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DEATH OF MRS. CHARLOTTE D. LOZIER.—In the death of Mrs. Charlotte D. Lozier, M. D., the world has met with a loss that will not soon be repaired. Although but twenty-four years old, she has lived more and accomplished more than thousands do in three-score years and ten. Born in a Western State, left without a mother at an early age, she had much of the care of a family from this time, and yet such was her energy that she obtained a good education, studied medicine for five years, married and became a mother, was appointed Professor in the Woman's Medical College, and obtained a large practice in the city among women, and beside all this was identified with many progressive and charitable movements. Though there were many women physicians in the field before her, yet she was a pioneer, and did much to help her sex to their rights in the study of medicine.

Her motto in life was "Love, Purity, and Truth," and she sought to live in accordance with it.

There is one lesson in her life and death that we may speak of in this connection, perhaps, with propriety. Though thoughtful to a fault of others, she did not sufficiently spare herself, but worked on beyond her strength, and thus, perhaps, weakened her bodily powers so much that she had not strength to go through safely with her confinement. Should not women who adopt a professional life, and especially the profession of a physician, estimate their own power of endurance, and not go beyond it in their work? Should not the medical colleges, where women are taught, make more of a point of obedience to the physical law in their instruction, if they would have their pupils retain their own health as well as become successful practitioners? It is true that physicians can not always obey the laws of health, thoroughly as they may understand them. Often their lives are a sacrifice for others, as much as a soldier's life is a sacrifice for his country, but this ought to be less and less the case as Hygiene becomes understood. We hope by our labors through THE HERALD OF HEALTH to help on this day.

Mrs. Dr. Lozier had but a few days previous to her death engaged to become a contributor to THE HERALD OF HEALTH on important subjects, and thus her loss is our loss. She had important matters to communicate to our readers, good words that will now never be said.

POISONED BY HAIR DYE.—Dr. Witheray of Iowa, died recently from the effects of lead poison taken into his system through hair dye. He had used the article daily for four years before the *fatal* effect occurred, although he suffered much from lead colic during this period. Has it never been observed that the artificial coloring given to the hair by hair dyes, from an artistical point of view, is less beautiful than the color it hides? Every hair dye sold in market contains lead or nitrate of silver. The lead poisons the user, while the silver gives a color not at all beautiful, and greatly injures the hair besides. We do not object to coloring the hair if it can be done without risk, but we do object to the use of hair dyes that are poisonous, which not only endangers the health but often the life.

HORTICULTURAL SCHOOL FOR WOMEN.—We have frequently spoken of Mrs. Marwedel's proposed Horticultural School for Women. There is also likely to be a school with a similar object in view near Boston, where twenty-five pupils can be taught a two-years' course. The expense of the enterprise for three years is estimated at about thirty thousand dollars, which includes land, buildings, etc. Why could not our seminaries for girls add this branch of instruction, and thus save much of the outlay for new buildings, land, etc.?

REV. MR. MILBURN'S EYES.—The medical journals speak of the operation performed on Rev. W. H. Milburn's eyes by the great oculist, Græffe, of Berlin, as being, to a certain extent, successful, but as yet his vision is not at all improved. Wherein the success of the operation consists we can not conceive, unless it is because he was not made any worse by it, as is often the case.

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How to Treat the Sick.

A Successful Experiment with Small Pox.—From our well-known correspondent, Mrs. Frances Dana Gage, we have the following communication:

"I spent the year of 1862 among the Sea Islands of South Carolina, and through the spring, summer, and autumn held, by appointment from Gen. R. Saxton, the position of General Superintendent of Paris Island, having under my entire control from four to five hundred 'contrabands'—men, women, and children.

There was not left upon the island one of the original white people, all having fled at the approach of our Army, taking with them every thing of value, and destroying much that could not be carried away.

We were six miles from the fort at Hilton Head, and sixteen from Beaufort above, on the Beaufort River, surrounded with war, yet very isolated.

The best of the slaves that could be kept went with their masters; all the best that could not had gone to the larger towns and cities, and hung around the camps; leaving all the old, crippled, diseased, deaf, dumb, and blind, and the children to what was left.

Nothing can be conceived, for humanity, more deplorably helpless than the condition of this island and its people, as the 'divine' and long-sustained institution of slavery had left it. I mention this only to give color to the almost incredible tale I am about to tell.

The summer was exceedingly rainy, every thing was saturated with heavy showers, succeeded a dozen times a day by intense, burning sunshine, until the cotton plants could not stand upright in the mucky sand hills.

The attack upon Charleston had been made, the battle of Fort Waggoner had been fought. These, and the hot, wet weather, and the fearful skirmishes along the coast, had filled all the hospitals to overflowing, and required the attention of every physician of the army. While things were in this sad condition, and our sick and wounded boys in blue were calling from Morris Island, Hilton Head, and Beaufort, for all the aid that could be spared, a new difficulty of almost paralyzing magnitude turned all our efforts to our own special charge on Paris Island.

There were but three resident white persons on the island—my daughter, my son, and myself. My daughter had just returned from a four-weeks term of nursing among the wounded, sick, and dying of Morris Island, when we were startled, one sultry August morning, by a messenger with the news that 'Ellen, ober to Habershom, was awful bad, and wanted the missus. Him had her body, and it was dead agin, two days 'fore, and now she was all over sores like, and dem didn't know how to do.'

As soon as possible, Pasum, our shaggy gray poney, was caught, saddled, and bridled, and Mary, with a satchel-full of comforts suspended from the horn of the saddle, cantered away three miles to relieve, if possible, the 'awful bad' condition of this new patient. Alas! her haste was too slow. 'Ellen was dead!' and the sores revealed themselves as unmistakeable pustules of small pox. She lay upon the mat of dirty blankets where she had died, and by her side was her husband, just developing the same frightful disease; while around them, crowding the stifled cabin, were dozens of men, women, and children attracted by sympathetic curiosity, and breathing in contagion with every breath. The crowd was immediately dispersed. The corpse was taken out of the house; Tony, made as comfortable as possible, and then *we three* held a consultation. We found that a large number had been to a camp-meeting over the river two weeks before, and that already a dozen or more were in the incipient stages of the epidemic; and would be helpless on our hands in a day or two, and their cases would

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be followed, probably, to a greater or less extent, on the plantations throughout the island. We were not doctors, but I had some life experience. Still, I felt that we must have counsel, and a messenger was dispatched to Hilton Head for an Army physician. Word was returned 'that half the Army doctors had gone north on furlough, or with the hospital boats, and not one could be spared from the fort for an hour; there were not half enough to supply soldiers' needs, and *we must do the best we could.*' Like word came back from the fort at Beaufort. We resolved to do our best. I ordered a party of well ones to gather oyster shells, and burn a lime kiln; then to whitewash the quarters. Others were set to work raking up the rubbish, cutting down weeds, and covering with fresh earth all filthy holes and corners. As soon as possible, I had fires set in the heaps of cotton stocks, brush, and vines, and kept them burning. To answer the cry for "physic," which the colored people demand (if any thing is the matter) with an insatiate desire, we resorted to a case of Homœopathic medicines, and a book of Pulty's Practice, which some kind friend had donated, with other good things, for the use of the *contrabands*. It had been laid on the shelf, as of about as much real use to them as the old volumes of Herodotus, Virgil, and Latin Grammars, that had helped to fill the barrels and boxes. But how easy to be mistaken; we looked out the best remedies for small pox, enjoining it upon every patient, with each class of infinitessimals, to bathe in tepid water, eat no pork; diet upon hominy, gruel, boiled rice and crackers; keep their doors open, their houses clean, to beware of drafts, etc.; for if they did not do all this, our magic medicine would do no good; and with this threat we obtained obedience.

Weeks went by, and still the disease swept on. September came, with drier days and sunnier skies, and by October the last victims seemed to have yielded to the contagion; and though our people, by the hundred or more, were as speckled as guinea birds, there had not been one death among them from small pox, except the first mentioned. Nor did we take the disease, or suffer, except from our excessive labor and anxiety.

Was it Homœopathy, was it whitewashing, was it disinfection-fires, was it vegetable diet, or was it all these put together, aided by the absence of drugs, that produced this successful result?

Many of the men were of the opinion that they would prefer to die after the most approved practice rather than be cured by a woman, and expressed their contempt and scorn, much as I suppose the Bushnells, Fultons, and Todds, or the medical students of Philadelphia College might have done under like conditions.

Pardon an anecdote: We had an old man on the plantation named Sharker, who had carried the brand of the disease, from head to foot, for fifty years, beside the marks of the whip upon his back, which in his youth had been literally flayed from his neck to his hips, so contracting the muscles that he could not stand upright; yet Sharker was the busiest man on the island, and could do as large an amount of 'nothing at all,' and keep at it, as any one I ever saw. Not having the fear before his eyes that he should '*cotch*' the disorder, he made himself a general runner or carrier of news, from quarter to quarter and house to house, calling upon me daily with wonderful accounts of things that never happened, and expecting a large allowance of bread and meat for his services.

When nearly all the patients were well or convalescent, Sharker edified us one day with a wonderful account of his '*good ole Mars's*' treatment of small pox. "Gub 'um plenty physic, salts, castor oil, and calomel plenty; gub the pickers and all—Miss Mary, if she'm had 'um 'ud cure 'um in no time; but she'm *a woman*;" and the ineffable disdain that the old victim expressed might have been copied by some of our editorial politicians.

'Why, Sharker,' asked I, "did it cure them all?' 'Lor bless you, no, Missus, not 'spect in natur, 'twor umpossible, most all 'um die; but 'um had the physic just the same. Lor, what dem women know bout 'um things?' said the masculine dignity, as he turned the corner.

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CURE OF CHRONIC DIARRHEA.—AN INVALID OF TWO YEARS' STANDING.—*Mr. Editor:* Thinking that my experience might be of use to some suffering invalid, I propose to give a few circumstances in connection with the above sickness, and my ultimate recovery.

My sickness originated in Shenandoah Valley Va., and in my opinion it was occasioned by eating half-cooked beans. I suffered intensely and long, and during my illness I tried by turns Allopathy, Homœopathy, "Herbopathy," and Water-Cure. The last-named cure did me infinitely the most good, and my ultimate recovery might justly be credited to a water-cure agency—namely, diet.

Many who saw me during my illness thought I must surely die; but, taking a hint from a country newspaper, I concluded to try a diet of boiled skimmed milk, in *small quantity*, and nothing else; that is to say, milk alone, with nothing added. I *slowly* drank, with a spoon, an ordinary tea-cup full three times a day, for a period of two days. Then by slow degrees I added some home-made "hard tack" (flour and water rolled thin and baked in a quick oven); also, by turns, some parched wheat in the grain, and a *little* milk-toast, buttered. Later, some baked mealy potatoes, and finally the ordinary diet, without restriction. My article is becoming lengthy. Hoping my experience may benefit somebody, I hastily close.

Yours, AN OLD SOLDIER.

TREATMENT OF FELON.—This is a deep-seated abscess, usually upon the fingers, but *may* be upon the toe; it generally appears upon the first phalanges of the fingers, seated either in the cellular tissue, the sheath of a tendon, or between the periostum and bone.

SYMPTOMS.

The first sensation is like a needle pricking the bone; the pain increases and extends over the finger, hand, and up the arm to the shoulder. When the hand is hanging down there is a sensation of weight or fullness, the part swells and becomes red, the pain grows more intense, flashes of chill and fever follow, and often the fever is very high; there is frequently a light colored spot, very small, at the point where the gathering begins. In eight or ten days the swelling begins to subside, the center becomes opaque and the surrounding parts shrink away, the point becomes soft, and then it is matured and is ready for lancing, or in time it may open itself. It should not be opened too soon, as a new cavity may be formed, and the same suffering have to be passed through again; for when there is so much virus thrown into those parts it must be deposited in some cavity.

CAUSES.

These are the use of greasy, high-seasoned food, indigestion, cold extremities, a torpid inactive skin, the want of bathing, and general uncleanliness, constipation, and a predisposition to scrofula.

TREATMENT.

In the early stages, during the first three days, the finger, should be put into as hot water as can be borne, and the temperature gradually increased for thirty minutes, or until the pain subsides, then apply a cool compress; cold compresses should be kept upon the arm, to cool the circulation and prevent the morbid deposits from being carried to the finger. The immersion of the finger in hot water may be repeated when the intensity of the pain requires it; if this treatment is persevered in faithfully it will scatter it.

Should this fail and the swelling increase, hot poultices, made of slippery elm, corn meal, bread and milk, or hops, may be applied, frequently changing them, which will not only relieve the pain, but bring the felon to a head. When it is opened, tepid poultices should be applied for a few days; after the inflammation has subsided it should be dressed with cold compresses, a creamed or oiled cloth, to keep the parts moist and afford protection; if the poulticing is continued too long it will draw effete matter to the part, and prevent its healing. For general treatment, give an occasional vapor, hot sitz, or pack, as may be indicated.—*Dr. McCall.*

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ANSWERS TO CORRESPONDENTS.

BY A. L. WOOD, M. D.

Treatment of Chicken Pox.—"What treatment would you advise in a case of chicken pox?"

In most cases very little treatment, if any, is needed. The celebrated Dr. Marshall Hall laconically says: "In general, *no treatment* is required in chicken pox. An open state of the bowels; barley water for diet and drink; a cool atmosphere; perfect quiet and repose, are the sole remedies." An excellent plan of treatment, coming as it does from an Allopathic physician. If there is feverishness, a tepid sponge bath once or twice a day may be given. If there is thirst, cold water should be freely drank. Care should be taken to prevent scratching, as the pustules will not heal so readily and there will be more danger of pitting. The itching may be relieved by tepid spongings of the surface.

Treatment of Sprains.—Sprains are usually very painful, and are accompanied with a high degree of inflammation and soreness. The indications are to secure perfect rest of the injured part, and to reduce the inflammation. The inflammation may be reduced by cold wet compresses, renewed as often as they become warm. When the patient has a great deal of vitality and there is a high degree of inflammation, the injured part may be immersed in cold water, or a stream of cold water may be poured over it until the pain and soreness has been partially removed, when the cold compress should be applied. When there is much pain and tenderness and but little heat, hot fomentations followed by cold compresses, are preferable. When the inflammation and soreness have subsided, friction is useful to promote absorption and strengthen the part. Great care should be exercised about using the injured part until the strength is restored, as it then requires but very little to sprain it again. A second sprain is more difficult to cure than the first.

Does Alcohol Warm?—"Is it not a mistaken idea that alcoholic liquors taken into the system increase the heat of the body and enable it to resist cold better than without their use? My own experience points to that conclusion."

It is. Those who use alcholic liquors can not endure extreme cold nearly as well as those who do not. This has been proved by experience many and many a time. It was a noticeable and well-marked fact that, of the men engaged in Arctic explorations, those who used alcoholic liquors most freely were the first to succumb to the influence of the cold, while those who abstained entirely proved to be the best able to withstand it. A man under the influence of liquor will freeze to death much sooner than one who is not. Numerous experiments have been made with the thermometer to test the influence of alcohol upon the warmth of the body and the result is always the same. The temperature always sinks after its use. There is nothing more certain than that the use of alcohol in any of its forms, poisons the system, wastes vitality, lowers the temperature of the body, and weakens the power of the system to resist cold or abnormal influences of any and every kind. Considered in relation to the human system, alcoholic liquors of every kind, whisky, brandy, rum, gin, wine, ale, beer, etc., are poisons, and only poisons, in health and in disease, and under all circumstances and conditions.

"What is the Best Stimulant?"—There is no such thing as a good stimulant, so there can be no best stimulant. Stimulants are all bad. What is a stimulant? It is a poison. To stimulate means to goad, to excite. Alcohol is a stimulant. When alcohol is taken into the stomach the vital powers recognizing it as a poison are excited to resist it and throw it out, which they do with all the force they are capable of exerting, and this action to rid the system of poison is stimulation. Stimulation is really poisoning and nothing else, therefore, if there is a best poison, there is a best stimulant.

How to Prevent Colds.—1. Eat plain, unstimulating food, and avoid rich pies and guddings, rich gravies, fat meats, etc. Especially guard against over-eating. If the bowels are constipated and the other excretory organs over-worked and weakened by the effort to throw off the excess of food, the person is far more liable to colds and to other diseases as well.

2. Avoid hot, stimulating, and alcoholic drinks of every kind. The tendency of all is to weaken.

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3. Always have your sleeping-room well ventilated. More colds are caused by sleeping in hot, close rooms than in any other manner.

4. Take daily out-door exercise according to your strength. It is better, as a rule, to go out in a storm even, if you are suitably protected, than to remain in all day.

5. Always breathe through the nostrils and not through the mouth, especially when going from a warm atmosphere to a cold one.

6. Dress loosely, so as not to interfere with respiration or the circulation of the blood, and dress so as to keep the extremities, particularly the feet, warm and dry.

7. Rub the entire surface of the body daily with a sponge, towel, or with the hands wet in cool or cold water, wipe dry, and rub briskly with a dry, coarse towel until the skin is all in a glow. It can all be done in three minutes. It should be done in a warm room, unless it can be done in a cool room without the least bit of chilliness being produced. The person should feel warmer after the bath than before, otherwise he may know that he has not taken it properly.

Feeding the Sick.—As soon as a person is taken sick his or her friends, as the case may be, begin to question the invalid as to what he will have to eat, and at once set themselves at work to fix up some tit bit to tempt his appetite. A man crams his stomach at regular and irregular hours, in season and out of season, with all kinds of unhealthful and indigestible substances, until it becomes worn out with the continuous and hopeless task of digesting them, and refuses, from sheer exhaustion, to further perform its function, or the system becomes so clogged from the over-supply that it is obliged to adopt extraordinary measures for relief and a fever is the result. What the stomach then needs is not more food, but rest, entire rest, until the system has had time to remove obstructions, repair damages, and put the machinery in good running order again. When this has been done a demand for food will be made, and then food may be given, but not till then under penalty of a still greater physiological disturbance and a longer continued sickness. This habit of stuffing a person whenever he feels a little unwell, is one of the most mischievous imaginable. Nine cases of ordinary sickness out of ten might be prevented by total abstinence from food for two days, upon the first attack. Do not be afraid of starving. It is perfectly safe in all acute attacks to wholly abstain from food for two days. In most cases this will be all that is necessary. In that time, often in one day, the system has time to regulate its affairs and all goes on well again. After fasting care should be taken to commence eating gradually, at first taking but a small quantity of some easily digested food. Nearly every case of colds, fevers, and inflammations can be arrested by a few days total abstinence from food at the very outset, with all the water the patient feels inclined to drink.

An Invention Wanted.—An instrument is very much needed to test the purity of the atmosphere, and the person who will invent and introduce such an article, which shall be simple and cheap, will not only enrich himself but confer a great boon upon poorly ventilated humanity. We have the thermometer to tell us the temperature of the air, and we have the barometer to tell us the moisture of the air, but we have no means of cheaply and easily measuring the purity of the air. Such an apparatus is needed in every church, lecture-room, and place of public gathering, and in every room occupied by human beings, either in public or in private. If people could *see* the amount of poison they were taking into their systems at every breath, they would be more careful to secure pure air to breathe. Such an invention is greatly needed, and the want will soon be supplied. Who will be the one to confer this blessing upon the race?

Accidental Poisoning, How Prevented.—Most of the cases of accidental poisoning are the result of mistakes of druggists, and their clerks, in putting up physicians' prescriptions. These mistakes are of almost daily occurrence. Instead of putting up the drug ordered, of which the quantity prescribed will only half kill a man, some other drug, twice as poisonous, is substituted, and the patient suddenly dies—poisoned. Now the true remedy for this is to prohibit the sale of poisonous drugs altogether; but the time has not yet come for that—that is a question of the future, when men shall have learned to think for themselves instead of yielding a blind obedience to whatever their doctor tells them.

Food for Infants.—"What is the proper food for infants who are obliged to be fed with the bottle? What do you think of Liebig's food for infants?"

A full and complete answer to the first question will be found in the June number of THE HERALD for 1869, page 285. "Liebig's Food for Infants" is *not the thing*.

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NOTICES OF NEW PUBLICATIONS.

WILEY'S ELOCUTION AND ORATORY: Giving a thorough Treatise on the Art of Reading and Speaking. Containing numerous and choice selections of didactic, humorous, and dramatic styles, from the most celebrated authors. For Colleges, Academies, and Seminaries, and a guide for Teachers, Clergymen, and Public Speakers. By Charles A. Wiley, Teacher of Elocution. New York: Clark & Maynard, 5 Barclay Street. Chicago: S. C. Griggs & Co. 1869.

READING AND ELOCUTION, THEORETICAL AND PRACTICAL. By Anna T. Randall, Teacher of Reading at the Normal and Training School, Oswego, N. Y. New York: Ivison, Phinney, Blakeman & Co. 1870.

The two books whose titles we have given above, though similar in scope and purpose, are distinct as to matter and method. They both aim to present in a condensed form the principles of Vocal Culture and Expression, together with a sufficient number and variety of examples for practice.

Of the former work it may be said that the selections (with perhaps one or two exceptions), are made in good taste, and are of sufficient number and variety to illustrate all the principles of vocal delivery.

Prof. Wiley's book is however especially commendable for the systematic arrangement of the elementary principles. The subject is presented in such a way as to be readily apprehended and easily retained by the learner. In this respect he has gained much by following the lead of Mandeville, whose treatise on Reading and Oratory, we have always admired for its lucidity and fullness of statement and its scientific method.

Mrs. Randall's book, according to the statement of the authoress in her Preface, was prepared with the view primarily of furnishing "choice selections of prose and poetry for school, parlor, and lyceum readings;" and judged in the light of this purpose we do not hesitate to pronounce it a success. The selections are copious, embracing the widest range of thought and feeling, and calling for every variety of expression; yet among them all there is nothing to offend the most fastidious taste. This, however, is but negative praise. We should not do justice to our feelings were we to stop here. As a compilation of exercises for elocutionary practice, the work has the merit of having been dictated by a sound judgment, as well as a cultivated and faultless taste. It is especially rich in gems from our best modern authors. The teacher and student of eloquence will find here something choice and *recherche*, adapted to invest their studies with fresh interest.

Upon the whole, we can commend both of these works as being well adapted to supply a want felt by many teachers and learners.

MAN IN GENESIS AND IN GEOLOGY; or, the Biblical Account of Man's Creation tested by Scientific Theories of his Origin and Antiquity. By Joseph P. Thompson, D. D., L. L. D. New York: Samuel R. Wells, Publisher, No. 389 Broadway. 1870.

This book, as its title imports, was written to show that he record in Genesis of man's origin and place in the system of nature is substantially in accordance with what may be regarded as the ascertained facts of science as to these subjects. The author assumes that the book o Genesis, as we have it, is in the main from the hands of Moses, and is part of an infallible Divine revelation or "Word of God." As such, when rightly understood, it must always in the last result be found to accord with God's elder record in nature.

The scope and bearing of the work may be gathered from the author's statement in the Preface: "It is neither a book of science nor of theology, but it aims to present the latest results of science touching the origin and antiquity of man and his place in this mundane system, side by side with the account of his creation and functions in the book of Genesis, as interpreted by the critical tests of modern physiology; and to suggest certain principles of adjustment between the record of Nature and the record of the Bible, without violence to the spirit of either."

It is difficult to pass judgment upon a controversial work such as this, without becoming involved in questions of a theological character, which, however interesting they may be to the individual inquirer for truth, it is not the province of this journal to discuss.

We take pleasure, however, in saying that the author has written with ability and in a catholic and liberal spirit. He does not manifest any solicitude as to the results to be apprehended from the progress of antiquarian studies; nor has he apparently any sympathy with that feeling which prompts certain theologians with indecent haste to snatch the sacred writings from the impartial scrutiny of science. His work, therefore, will be found interesting not merely to those who accord with his opinions, but to those whose investigations have led to opposite conclusions.

The writer takes issue with the theory of the development of superior species from inferior, through the operation of secondary causes. He does not believe, with Huxley, that "man has proceeded from a modification or an improvement of some lower animal—some simpler stock." He claims for him a truly divine origin. Not only as to his higher nature, his spiritual part, is he the immediate creation of God, but even his physical organization, our author contends, can not by any show of science be made to appear as the last of a series of organic forms lineally connected.

As to the antiquity of the human race, the author maintains a moderately conservative position. He concedes that the common chronology, which assigns to our race a duration thus far of about six thousand years, is quite out of keeping with the results of archæological investigation. At the same time he would receive with caution the evidence of supposed discoveries, and thinks it is well "to guard against the purely speculative habit of ascribing an immense age to every new discovery in archæology."

As regards the "Woman Question," the book takes decidedly conservative ground, maintaining that woman is disqualified by nature for sustained exertion either of the muscles or the brain, and consequently can never hope to compete with man in an equal race for the prizes which society has to offer. Precluded by the delicacy of her or-

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ganization and the sacred functions of her nature from serving the State in its demands as a civil organization, she has no natural right to the ballot. While labor is man's primordial necessity, "*Woman's* right to labor," our author thinks, is a cry of evil omen. To this part of the work the champions of "Woman's Rights" will undoubtedly take exceptions.

The book is tastefully gotten up, and its appearance is highly creditable to the enterprising house from which it issues.

THE NEWSBOY. By Mrs. E. Oakes Smith. Published by The American News Company, New York.

This is a story of absorbing interest. Mrs. Smith goes with her generous heart and judgment down into the great mass of living, suffering, and too often misjudged humanity, and portrays in vivid colors what she sees there. She makes us feel their wants and yearnings for more light and knowledge, and tells us the beautiful story of little Bob, who acts "according to his lights," in a way to shame wiser people.

There is sad truth in his words when he pleads for his class in society. "We's al'ays been despised. Grand women al'ays looks down at us with a sort of snubby look. When I gets into the cars and stages I sees people kind o' look to their pockets. I does'nt mind it. I know what I am, Sir, and I can not be made to feel mean-like. But, Sir, I has friends, a good many friends, Sir. They goes with bare feet, and has rags and no hats; some on 'em aint good, but the contrary: they's weak, Sir, and poor, and cast out, and ignorant; drunkin', some on 'em, and lyin', some on 'em, and some on 'em do worse things; but, Sir, the very worst on 'em has a good spot in the heart, a good spot, Sir, that might help out the rest of their hearts, if any body would see to 'em a little."

If any one should say that the book belonged too much to the sensational class of literature, how can they be better answered than by the writer's own words:

"A literature which deals in wild extremes of passion is demoralizing to a people; and that which depicts the pure springs of our humanity, its strange warp and woof of good and evil, the good always looks like fair inwoven threads of silver, and may be made healthful and ennobling.

BEECHER'S SERMONS, SECOND SERIES. New York: J. B. Ford & Co.

This volume of twenty-six sermons preached by Henry Ward Beecher, between March and September, 1868, has been published by the enterprising firm of J. B. Ford & Co., now Mr. Beecher's publishers. In a brief Preface of the volume, the author says:

"The subjects are various: designed to awaken moral feeling, to develop it into habits and principles, and to cheer and encourage Christians in the trials of a spiritual life. It may be noticed that there runs through the six months' preaching an open and tacit dealing with that uncertain and doubting of mind which belongs so largely to our duty. This is but giving to each need its portion in due season. The present attitude of the scientific mind of the world is not favorable to the Christian Church or to revealed religion, and there are many physicists who do not stop even there. The denial of the existence of God, either overtly or covertly, and of the soul's spirituality and immortality, is no longer occasional or rare. Although I have not formally discussed the evidences of religion, I have endeavored to fortify Christian faith and courage in regard to those elements on which we have built our lives and all our hopes."

Like all of Mr. Beecher's writings, these sermons satisfy a want felt by a large class of persons, and deserve an extensive sale.

THE PUBLISHERS' DEPARTMENT.

Contributors to this Number.

MRS. ELIZABETH OAKES SMITH,
REV. CHARLES H. BRIGHAM,
HENRY WARD BEECHER,
PHŒBE CARY,
REV. J. C. HOLBROOK, D. D.,
ARCHIBALD MACLAREN, of Oxford, Eng.,
E. P. EVANS,
J. E. SNODGRASS,
PROF. HUXLEY,
FRANCES DANA GAGE,
MRS. R. B. GLEASON, M. D.,
DR. A. L. WOOD, and
THE EDITOR.

This Number.—We send this number out to the world on its mission, with the firm belief that it will be a most welcome visitor to a large circle of friends, old and new.

The story of "Two Wives," which commenced so brilliantly in the January number, promises to increase in interest, and one of its chief beauties is that it is written in a new vein. We trust our readers will find it a pleasant feast to them each month.

Mr. Brigham, whose articles in 1869 were so uniformly excellent, give us, in this number, an excellent article on the Care of the Eyes. He has promised us several papers for 1870 on practical topics, which can not but prove valuable.

Mr. Beecher's paper on "Activity," is also full of good things, as are all the articles from his pen.

Phœbe Cary gives us in her poem, "The Landlord of the Blue Hen," a Temperance argument worth more than many of the lectures we now hear on this subject. Our exchanges will please remember to credit it to THE HERALD OF HEALTH, when they copy it into their own columns.

We are glad once more again to welcome to our columns the Rev. Dr. Holbrook, in his timely paper on the "Present Duty of Temperance Men."

We also ask special attention to the second paper on "Growth and Development," by Archibald Maclaren, of the Oxford University of England, which is a masterly one, being both well written and full of thought. These papers will extend through five numbers, going over the whole philosophy of physical growth.

Dr. Snodgrass gives us good thoughts on "Spurs and Reins." What he says is brief and to the point.

Prof. Evans' paper on "The Prisons of Paris," will also

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show to our readers how criminals are treated in France, and perhaps lead to something valuable, as to how they ought to be treated in America.

We call especial attention to the paper entitled "Our Studies in Physiology," by Prof. Huxley. Few physiologists possess such rare faculty in making this subject plain and interesting. We shall continue these articles during the year, and thus bring before our readers monthly, most important instruction on a subject greatly neglected.

In the Editorial Department we are aiming to give a larger and better variety than ever before.

The department devoted to the Treatment of the Sick, we also intend to make full and practicable. We hope to show our readers how they may treat many forms of disease, without stuffing themselves with poisons.

In our department devoted to Book Notices, we shall give a larger and better amount of reading than formerly, making it a more valuable feature.

"Answers to Correspondents" will be full and complete, and explain many a knotty point, as well as give much needed advice and information.

A Winter in Florida.—This book has reached its Third Edition within three months, and the demand still continues. Mrs. Harriet Beecher Stowe, in speaking of the work, thus writes:

"*Dear Sir:* Allow me to express my thanks for your interesting and tasteful little tribute to our adopted State. Just going southward, I shall exhibit it to the natives in triumph, as evidence that our sunny land is appreciated.

Very truly, yours,

H. B. STOWE."

The Picture of Humboldt.—We are now sending out the picture promised to our single subscribers for 1870, who send directly to the publishers $2. Lest there be a misunderstanding on the part of some, we state distinctly that those who take THE HERALD at club rates will not be entitled to it. The way to secure the picture is to send your money direct to the publishers.

Home Treatment.—Invalids wishing prescriptions for home treatment can have them for Five Dollars. They should send full particulars of their cases. Any person sending five new subscribers to THE HERALD OF HEALTH and Ten Dollars, will, if he does not choose other premiums, be entitled to a prescription for treatment free.

How to Send Money.—In making remittances for subscriptions, always procure a draft on New York, or a *Postoffice Money Order*, if possible. Where neither of these can be procured, send the money, *but in a Registered letter*. The present registration system has been found by the postal authorities to be virtually an absolute protection against losses by mail. *All* Postmasters are obliged to register letters whenever requested to do so.

Caution.—Our friends in writing to us will please be very particular and give Postoffice, County and State with every letter, and not depend on us to remember where they live, though they may have told us a hundred times. Those who think we can turn to our books and find their names and address without trouble, are quite mistaken.

Our Premiums.—We shall be careful to send out as Premiums nothing which is not all that we claim for it in value. No cheap, second-hand, or indifferent articles will be used.

A New Premium for All!

We have had engraved a very fine **Steel Engraving of ALEXANDER VON HUMBOLDT** after an Original Oil Painting owned by A. T. Stewart, Esq., which we shall present free to every subscriber to THE HERALD OF HEALTH for 1870, who sends $2 00. It is of large size for framing, and has been pronounced by competent judges an excellent likeness. It will be sent postpaid by mail.

Notice to Our Correspondents.—

The following hints to correspondents should be observed in writing to us:

1. ALWAYS attach name, Post Office, County, and State to your letter.
2. SEND MONEY by Check on New York, or by Postoffice Money Order. If this is impossible, inclose Bills and register Letter.
3. CANADA AND NEW YORK CITY SUBSCRIBERS should send 12 *cents extra*, with which to prepay postage on subscriptions to THE HERALD OF HEALTH.
4. REMEMBER, if you are entitled to a Premium, to order it when you send the Club, and inform us how it is to be sent.
5. REMEMBER THAT WE NOW GIVE the *Empire Sewing Machine* as a premium. It is guaranteed to give good satisfaction.
6. REMEMBER TO SEND in Clubs early.
7. REMEMBER TO LOOK at our Premium List and Book List, and see exactly what we give and have for sale.
8. REMEMBER that for the names and addresses of 25 persons, either invalids or friends of Temperance and Health Reform, we give Prof. Wilson's book on the Turkish Bath. It contains 72 pages.
9. STAMPS should be sent to prepay postage on letters that require an answer.
10. Those who want a good *Spirometer*, *Parlor Gymnasium*, or *Filter* for making their water clean, will find the prices in another column.
11. INVALIDS from all parts of the country are invited to write to us for our circular, and full particulars as to Treatment or Board in the Hygienic Institution, See advertisement elsewhere.
12. See List of Books elsewhere.

A Good Sewing Machine is given free for a club of 35 subscribers and $70. This premium is very popular. If there is a poor, deserving family in your neighborhood help it to get a good sewing machine by subscribing at once. Perhaps your minister's wife wants one. If so, help her to get it, by helping her to get up a club. The Empire is one of the best sewing machines in use, and we are sure that it will give you good satisfaction.

Wanted.—Will our readers please send us brief items of news and experience referring to Health and Physical Culture topics. Make them pointed and practical, and we will publish them for the benefit of others. Do not mix them up with business or personal matters, but on separate sheets of paper and in readiness for the printer.

Clubs of Twenty-five.—Any person who will send us at one time twenty-five new subscribers to this monthly, shall have them for Twenty-five Dollars. Remember they must be new subscribers, and all be sent at one time.

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A SPLENDID GIFT! READ!!

PREMIUM LIST OF 1870 FOR

THE HERALD OF HEALTH.

To every SINGLE SUBSCRIBER, who sends us $2 00, we will send

A VERY FINE NEW STEEL ENGRAVING of the great Philosopher and Scientist *ALEXANDER VON HUMBOLDT*, after an Original Painting owned by A. T. Stewart, Esq.

The above-mentioned picture is only for those subscribers who send us **$2 direct.** Where the names go in clubs at club rates, to take a premium, we do not send them.

For 2 *subscribers* (1 *old*, 1 *new*) *and* $4

A copy of "A WINTER IN FLORIDA," worth $1 25, or one copy of "PHYSICAL PERFECTION," worth $1 50.

For 3 *subscribers* (1 *old*, 2 *new*) *and*..$6

A copy of Prof. Welch's New Book, "MORAL, INTELLECTUAL AND PHYSICAL CULTURE," worth $2 25.

For 4 *subscribers and*.....$8

A GOLD PEN, with strong Silver-coin Holder, worth $4.

For 7 *subscribers and*.....$14

We will send postpaid one of Prang's beautiful Chromos, worth $5, called THE BAREFOOTED BOY. After an oil painting by Eastman Johnson. This is an illustration of the familiar lines of Whittier:

"Blessings on thee, little man,
Barefoot boy, with cheeks of tan."

It is the portrait of a "young America" in homespun clothing, barefooted, and with that self-reliant aspect which characterizes the rural and backwood's children of America. It is very charming. Size, 9 3-4 x 13.

For 9 *subscribers and*.....$18

We will send, post paid, One of Prang's beautiful Cromos called A FRIEND IN NEED, worth $6.

This is a country scene, composed of a village in the distance, with trees in the middle, and the village pump in the immediate foreground. A happy looking village boy lends his friendly aid to a pretty rustic damsel, who is quenching her thirst at the pump, the handle of which he is plying vigorously. The position of these figures, in connection with the dog, who also enjoys the cooling draught, forms a most interesting group, which is excellently rendered in strong, effective colors. Size, 13 x 17.

For 15 *subscribers and*.....$30

We will give ONE OF WEBSTER'S PICTORIAL UNABRIDGED DICTIONARIES, Illustrated with 3,000 Cuts, worth $12.

For 25 *subscribers and*.....$50

We will send ONE OF BICKFORD'S PATENT KNITTING MACHINES, worth $30. It will knit any variety of garment from a stocking or bed-blanket to an elegant shawl, or if you choose, fringe, cord, suspenders, mats, etc., etc. Their general introduction would be of as great value to the household as has been the sewing machine.

For 35 *subscribers and*.....$70

We will give a splendid EMPIRE SEWING MACHINE, worth $60. This is as good as any machine in market and can not fail to give the best satisfaction.

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We will send one of MASON & HAMLIN'S FIVE OCTAVE ORGANS, worth $125, with Five Stops, Viola, Diapason, Melodia, Flute, Tremulant, with two sets of Vibrators throughout, and Knee Swell.

For 100 *subscribers and*.....$200

We will give ONE OF ESTEY'S FIVE OCTAVE COTTAGE ORGANS, Black Walnut, Double Reed, Harmonic Attachment, and Manual Sub Bass, Three Stops, worth $200!

For 300 *subscribers and*.....$600

We will give a BRADBURY PIANO, worth $600!

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We will send *THE HERALD OF HEALTH* and any one of the following Journals one year, for the sum below mentioned. The order and money for both must be sent at the same time.

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ATLANTIC MONTHLY	$4 00	for $5 00
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PHRENOLOGICAL JOURNAL	3 00	for 4 00
OUR YOUNG FOLKS	2 00	for 3 50
NEW YORK TRIBUNE	2 00	for 3 35
AMERICAN AGRICULTURIST	1 50	for 3 00
PACKARD'S MONTHLY	2 00	for 3 00

10 *subscribers*, $15. 4 *subscribers*, $7.
1 *subscriber*, $2. *Single numbers*, 20 *cents*

WOOD & HOLBROOK,
Nos. 13 & 15 Laight Street, New York.

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PACKARD'S MONTHLY.

ANNOUNCEMENT FOR 1870.

This is a magazine which does not depend for its interest upon fiction or unwholesome sensation, but which has secured to itself during the two years of its existence a degree of public attention and favor rarely ever attained in so short a space. This has been accomplished by furnishing the kind of reading which the public really want—Spicy, Original, Healthful Accounts of the Moving World, and the men and women therein.

It employs the Best Writers in the Country,

who give to it their brightest and freshest thoughts. Among its regular contributors are

HORACE GREELEY, OLIVER DYER, ALICE CARY, JAMES PARTON, ELEANOR KIRK, J. FRANKLIN FITTS, E. A. POLLARD, PHŒBE CARY, NATHAN D. URNER, MARY E. TUCKER, GEO. WAKEMAN, EDWIN DE LEON, ELIHU BURRITT, THOS. W. KNOX, ETC.

Mr. Dyer will give, during the year, a regular series of papers on the poor and destitute of New York, which will be suitably illustrated. Eleanor Kirk's experiences among the Working Women, which have proved so decided a feature, will be continued. The Editorial Department will be greatly extended and improved, and all parts will be made to work together for good.

The magazine contains 48 pages, beautifully printed on fine paper, and is in all respects beautiful and attractive.

TERMS FOR 1870.

Subscription one year.....	$2 00	Twenty five copies, to new subscribers..	$40 00
Six copies, to new subscribers.....	10 00	Thirty-two copies, to new subscribers..	48 00
Eleven copies, to new subscribers.....	18 00	Fifty copies, to new subscribers	70 00

Any person sending us *fifty* new subscribers, with *seventy-five* dollars, will receive as premium a copy of WEBSTER'S UNABRIDGED DICTIONARY—latest pictorial edition—or *twelve dollars' worth* of books from any American publisher, such as the agent may prefer.

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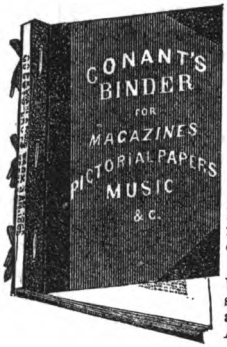

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ADVOCATES

A Higher Type of Manhood—Physically, Intellectually, and Morally.

MARCH, 1870.

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VOL. 15, No. 3.] NEW YORK, MARCH, 1870. [NEW SERIES.

PUBLISHED MONTHLY BY WOOD & HOLBROOK, 13 & 15 LAIGHT STREET.

THE TWO WIVES.

BY MRS. ELIZABETH OAKES SMITH.

CHAPTER VIII.

THE PROFESSOR IN DREAM-LAND—SERPENT SYMBOLISM—THE MOSAIC CROSS.

"I DO not believe I told my English name, Rodman. Not that I wished to cheat her, but it would not have seemed the thing to reject the name she had given me, and somehow 'Teomax' had a sweet sound from her lips."

Rodman rubbed his shins tenderly, and at length stretched himself upon the green earth, wincing a trifle as he crushed the sharp points of a cactus, in full bloom, and replied,

"It always does seem as if any thing that has just a touch of the Old Sarpent is sweeter to the ear than what is regularly good and wholesome; but go on, I should like to see how you come out."

"I threw myself upon the gorgeous couch but I could not sleep—the splash of the fountain, the soft cooings of the doves, which in this delightful climate scarcely rested for the night, but perched upon the open lattice darted in and out, and dipped their beaks in the fountain, with tender cooings suggestive of sensuous enjoyment. I arose and walked the chamber; the blossoms which I had noticed I found to be the beautiful *espiritu sanctu*, whose petals inclose the image of a dove, and which Zalinka had evidently regarded as a sacred symbol.

"While thus restless, and oppressed with many misgivings, I approached the lattice, which was but a loop-hole in the vast structure, and there I plainly heard the voice of Zalinka in earnest adjuration,

"'Go, said a stern voice; bring thy minion hither!'

"'Swear to me, my father, that he shall not die.'

"'Ye gods! girl, were it not for the sign upon thy shoulder, I would dash thee from yonder battlement into the waves below. Thou wilt bring shame upon our ancient religion.'

"'Never, my father, never. He bears upon his breast a holier sign than mine.'

"'Let him kneel to our gods; let him behold the secrets of our faith, and then, if he is worthy, he shall live.'

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"'You swear, my father?'

"'I swear.'"

"A ticklish position, George. I hope you didn't shame your country or religion by stooping to their mummeries?"

"You shall hear, Rodman. I turned from the lattice; presently the curtain was lifted, and a small, dark figure approached me, nearly all of whose person was shrouded by masses of black hair reaching to the feet. She raised a diminutive hand and beckoned me to follow. At first I had thought her a child, but the keen, expressive eyes and wrinkled face bespoke maturity of years.

"She led me through several galleries and gorgeous chambers, and then turned to an angle in the wall, which, though distant, commanded a view of the lattice of the room in which I had been placed. Lifting the entrance-curtain, I found myself at once in a vast somber room, apparently set apart for the deeper mysteries of the priesthood, and screened from observation except from other apartments appropriated to a like purpose.

"The dwarf threw herself down in a distant recess at the foot of a lamp and remained motionless. I now saw that Zalinka stood with folded hands and eyes fixed upon a being of such resplendent, manly beauty, that all my preconceived ideas of a handsome manhood vanished before him. He was tall, delicately but firmly made, and robed in a long, flowing garment of dazzling whiteness, girded with a belt glittering with gems. A soft, voluptuous mouth, a thin, open nostril, bespoke keenness and sensuousness; but there was not a line that told of weakness or abuse; on the contrary, there was that indescribable expression of power, of subtile self-mastery and fearless vigor which charmed while they awed. The high narrow forehead was crowned with a silver fillet representing leaves of the feathery palm, while the dark, round eye gleamed from beneath brows arched by a thin black line. Spite of myself I was awed by his presence. I felt my head drop before him, when I saw Zalinka make a slight upward motion of the head, as if to admonish me, and I assumed an air more in accordance with my natural character."

"That was right and proper; for if there's any thing to make a man look like a poor concarn, it is when he knocks under before one of those would-be-grandee sort of fellows. I never saw one of them that I'd play a second fiddle to. What came next?"

"I looked him, as man meets man, in the face. I saw his fingers move in cabalistic signs supposed to have power over will and destiny. Once his eye wavered, but only for a moment, and he turned to Zalinka,

"'Is the fane prepared?'

"'Follow,'" she replied, at the same time clapping her hands once.

"The dwarf arose from the stone floor, and lighted candles of wax placed in silver sconces; then she crawled, serpent-like, till she reached a huge alcove, before which hung a curtain made of the feathers of the humming-bird, so woven that they seemed like glittering serpents, convolved and radiant with a thousand hues, the tongues of which were formed of rubies, and the eyes glowing with the wicked light of the flaming opal.

"She held the fabric in her hand, and turned her face inquiringly to Zalinka, who now approached me.

"'Canst thou die like a man, Teomax?' she demanded."

"A cheating hussy!" cried Rodman. "Three to one, and asked you that! What next? What said you?"

"'In what way, beautiful priestess?' I demanded in return.

"'By the sacerdotal knife.'

"'And thou?'

"'Must die with thee.'

"'I am content.'"

"The more fool, you! It might do for varmin like them, but for a stout Yankee, with Christian blood in his veins, I tell you, George, it was a knock-under that I didn't think belonged to you. Go on!"

"Suddenly the priest cast aside his garments, except the girdle of snow-white feathers about the loins. In his hand he bore a knife upraised, and approaching the recess he tore the curtain from the hands of the dwarf and swept it aside. Zalinka knelt with her lovely eyes upraised, but I stood fascinated, awe-struck—horrified. I neither moved nor spoke. I was transfixed as by a spell.

"The secrets of primeval worship—the symbolism of remote nations—were revealed to my wondering eyes. Was the priest an imposter? Did he stand in cynicism of unbelief and practice upon the credulity of the multitude? Far from it. He stood near to the heart of Nature, fast by the then received oracles, and worshiped according to the light he had received.

"I beheld a vast, living serpent, rising fold above fold from an altar-place of stone, above which arose a vast cross, and over this reclined this terrible monster. The priest threw his arms aloft, and chanted in a low musical voice,

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to which Zalinka's sweet notes ever and anon replied in unison. My presence was disregarded. As the chant proceeded, the serpent rose higher and higher upon the cross—the priest extended his arms in ecstacy—and Zalinka, rising to her feet, stood at the foot of the altar, her hands extended, and her person transfigured to a something grandly beautiful—a living sphynx, an unapproachable virgin; a full, commanding, glorious woman.

"The serpent had ceased his evolutions, and a profound stillness pervaded the apartment. Not a sound, not a buzz of a fly, not a drip of a fountain, not a wing of bird or heave of human breath broke the silence of the sacred precinct. My eyes followed the form of the serpent up to the huge stone which formed the apex of the cross. Here his head rested, and now for the first time I realized clearly that the head of the serpent produces the figure of a triangle, the simplest form that may inclose a space. While I gazed with a new sense of awe, I was able to read the language inscribed upon his skin—grand, mystical signs, the first alphabet of earth, and the source whence issued forth a thousand half obliterated traditions, lost to man in the progress of the ages, and superseded by clearer revelations.

"In my deepest heart I felt their primeval truth, read them and reverenced them as the pure heart reverences the sayings of a child. Then I beheld this triangle to glow with a light, dazzling, clear, and burning; and it was no longer a serpent's head but a glorious symbol of the Infinite. Within the triangle was a circle, and within that a word which it is forbidden man to utter, that holiest of holies of which all the universe is a symbol, and to which the human soul for ever aspires, and yet may never approach, adoring for ever, unfolding to Infinity.

"I threw myself prostrate before this ineffable sign. I poured out the incoherent longings of a soul ready to lay down life that it might more nearly approach the Infinite. I was lost, annihilated in the one thought of eternal space—and spurned the limitations of time and earth. How long I lay prostrate before the serpent I know not—consciousness was gone, and nothing left but an indescribable rapture."

"So after all, you did worship the varmint, George! I don't wonder—I suppose you couldn't help it. To my mind it kind of explains that power of the sarpent that makes creturs cave in at the sight of 'em. Perhaps the critter shows his interiors to 'em in a way like what you saw. Ha, George?"

"I have thought something of the kind may exist. At any rate the animal was more an object of delight than of terror to me as I stood before it, and I surmise that those ancient worshipers possessed the key to some mystical symbolism connected therewith, which is now lost to us. It is only to be hoped that the loss has been supplied by something better."

"What happened next to you, old fellow," continued Rodman. "I begin to feel a trifle peckish, and shouldn't wonder if a wild turkey well broiled on them are coals would go down well. Tst! there goes a panther, as true as my name's Rodman. She's been down to the river to drink. Them's pesky treacherus critters, and I shouldn't wonder if she should get round behind us for a safe spring. No, she's gone up the glen. Hear her growl over her cubs! Well, well, Natur' has her own way to express a liking in man as well as beast," and Rodman examined the priming of his rifle, and finding it all right, lighted his pipe, and reclined as before.

"I lay half unconscious upon a bed—a soft drip from the fountain rather soothed than awakened the senses, and the most delicious aromas of tropical flowers wrapped the body in a voluptuous state, which was not sleep, nor yet was it waking life. A profound sense of rest, of content, of all negation of the past or desire of the future left me unwilling to raise a hand, to lift a lid, to think, or more than breathe. I was conscious of the presence of some one near me, but who or what I cared not to know.

"'Is he not beautiful, my father?' It was the soft voice of Zalinka. 'Behold, upon his breast the sign!' and I thrilled beneath the delicate touch of her finger, as she laid it upon this natal mark.

"'The great God above all gods hath sealed him,' returned the priest. 'He must serve at the altar; he must remove the stone from the top of the teocalli and appear before the people. He is the incarnate god, with a face fair as the moon, bright as the sun, and terrible in its white majesty. We will yield to him, foretold by priest and augur, and the Aztec shall be great and powerful.'

"'And I, my father?' murmured Zalinka, tenderly.

"'Thou, girl! What art thou?'

"'A woman! beware!'

"'Tut, tut! Do thine office, and be silent.'

"'Listen! Think you I am like the troop of girls that do thy bidding, and come and go while it pleases thee, and then are cast over the battlements, dead and forgotten? No, by the gods! Yon creature—our god, our symbo

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our index to the eternities, should wrap thee in his folds ere a hair should be singed at the altar on the head of Teomax. Nay, my father (this was said softly), thou knowest that I love thee, but remember my power—remember that I stand marked and sealed beneath the care of the very creature before whom ye worship and tremble with fear.'

"Roused to consciousness, I beheld Zalinka approach the altar; she turned her face toward her father, and stood with hands folded upon her breast in the shadow of those eternal mysteries of Serpent and Cross. A thousand shadowy images flitted across her grandly beautiful face; now she realized the soft and voluptuous dreams of a Cleopatra, and now the sanctity of a saint—Eve in her virgin grace—Mary in her maternal agony—How shall I describe thee, Zalinka?

"The priest sank before her mysterious loveliness, her typical beauty. The serpent slid from the cross and lay at her feet. The dwarf buried her face in her mass of ebon locks, and shivered from head to foot. Then I arose from the bed and approached her. Awe-struck, indeed filled with a holy and profound reverence for immaculate womanhood, I held out my hands to her. I did not speak, I felt my very being call her to myself. I felt that she would henceforth draw all the elements of my life into hers.

"Slowly Zalinka turned her glorious eyes upon me. Slowly she recalled the fragments of her existence which were about to be dissolved, and bent her face toward me. Then she stepped over, and with her tender feet pressed the folds of the serpent, and came to my arms."

CHAPTER IX.

A Pleasant Mother-in-Law.

THE Professor resumed his pencil almost instantly, but his eyes had a weird, far-off look that did not escape the keen perceptions of Cora, who put her cheek to his and did not speak.

"Dear heart!" murmured her husband, "I cause you grief when I would not do so. Be patient, child."

At this moment entered Mrs. Pyncham, whose jealous mind turned the aspect of the two into a commonplace quarrel, as vulgar people will.

"My poor child! how miserable you are!" she cried, laying her mittened hand on Cora's shoulder and with the other pulling at the strings of her bonnet, which had got into a tangle, and she jerked and pulled, at the risk of dislocating her neck. Finally she dragged the whole thing away through a place so small that off came her cap off came her "front," leaving her short-cropped hair sticking out in all directions.

"O mother! what a fright you are!" exclaimed Cora, coming to the rescue. "I declare if I live to be old, I'll never put a false thing on me; I'll wear all my wrinkles and gray hair, and if I can not be handsome, nobody shall see me make a fool of myself."

Mrs. Pyncham groaned audibly. "To have my own child turn against me! to be flouted and abused by my own flesh! Oh dear, I have nourished and brought up children (one only), and they have rebelled against me (that one has)."

The Professor, unable to cope with such a character, beat a retreat; and in the meanwhile Cora adjusted the "front," and cap, and disentangled the ribbon, all the time giving vent to "oh dears!" "goodness graciouses!" and other ejaculations by which women relieve their mental disturbances, just as men do by more fervid expletives.

"Where's Sister Electa?" at length demanded Mrs. Pyncham.

"She is here!" responded the clear voice of the maiden from the recess of a window, and she now came forth and gave her hand to the widow, who mittened it and then began to fumble in a deep bag for some article, glaring all the time in the face of Electa, and working her mouth into unhandsome shapes as one object after another passed under the scrutiny of her fingers and was rejected. At length she produced the two parts of a piece of paper which had originally been a note, and handed them to Sister Electa, saying, "Paul Stearns asked me to give it you, as he saw me on my way here. A bold, forward young man is that Paul."

The note was in a cramped, stiff hand, and said, "Will Electa, the Shaker, come to the poor house of John Stearns? He is sick, perhaps dying."

"I would not do any such thing," said Cora, to whom Electa handed the note. He is a low, bad man; and does not speak to any body when he can help it. Goodness! I do not see what he wants of you."

But Sister Electa tied on her plain bonnet, and walked down by the water side in quest of the house of John Stearns. It was a raw, chilly twilight, and the mist rising from the river hung heavily in the air; the plash of the water over the mill-wheels came soothingly to the ear, but the mill-men had ceased their toil,

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and the lumber scattered along and the rafts of timber slowly undulating in the water gave to the aspect of the place a melancholy, deserted appearance, at once depressing and chill. Ever and anon a gust of wind sweeping across the river swayed the branches of the pine trees, and converted their low whisperings into a rush of sound as if an invisible troop scaled the hill-side and hurried away into the gathering gloom. The melancholy plaint of the whippoorwill deepened rather than relieved the air of solitude, which grew upon the sense of the maiden as she moved onward; and now and then the loon, rising from some marshy covert, gave out a low, quivering cry.

Before we proceed to the interview which we have indicated, it will be necessary to retrace our steps a brief space in the progress of our story.

CHAPTER X.

John Stearns — A Moody Household — A Tender Wife.

MANY years before the commencement of our narrative, John Stearns and his mother, who was well-stricken in years, and by many believed to be a little "loony," had come to the town of Brunswick, and settled themselves in the small old house under the hill, which had been previously occupied by one of the workmen of the saw-mills at the Androscoggin Falls. It was thought he was known to the former occupant, who had emigrated to parts unknown, and left his house and good word in behalf of Stearns to the proprietor of the mills. Be that as it may, he at once commenced his toil in the establishment, and his old mother took up the duties of housekeeper. She was taciturn and cross, rarely having any thing to do with their few neighbors, never attending any place of public worship, never appearing in any dress other than a long brown serge, tied in loose folds about the waist, and a strip of the same material laid upon her gray hair, and knotted beneath the chin. This dress was scrupulously neat, and not unbecoming to the strong, sharply defined face, with its pair of gray, penetrating eyes, which always looked out from beneath the contracted brows with an intense expression, indicating some mental pain or anxiety.

Both she and her son were more intelligent than their class are generally expected to be, and it was observed that they had a few old choice books, and some articles of household use, and ornaments rarely found in the dwellings of the mill-men. It was generally supposed they had emigrated from Canada, a conveniently large area to leave that indefiniteness of location so often coveted by those who flee from misfortune no less than by those who escape detection from crime. Mrs. Stearns, or "Granny," as she got to be called, seemed to have concentered all the affections of her nature, no less than all the thoughts of her mind, upon her companion, a son, who, despite his sullen character, never failed in duty and respect to the author of his being.

Moody, religious even to fanaticism, he was always tender, respectful, and forbearing to her. He would lighten her household toil by a thousand little helps in the way of supplying the fires, bringing water, and even arranging the furniture in a sly, awkward manner "to save her poor back," as he would say, never her old back; and she would note these little attentions with a quick, grateful glance, a quiver of the lip, and furtive grasps of the folds of her dress, and a "bless you, my son," uttered in a whisper.

Sometimes she might have been seen in the secrecy of her own rude apartment, after having bolted the door, to take from her pocket a small silver box, which she held in her hands, turning it from side to side, rubbing it between her palms, patting it slowly, almost tenderly, her gray eyes dilating with a look of pain, and her whole frame quivering with agony. Then she would open the box and lift therefrom a long tress of golden brown hair, soft and wavy, a smile flitting across her lips as at a brief, pleasant memory, when all at once she would seize upon a slight knot, or tangle, which even affection had never smoothed away. This knot she would gaze upon with a sort of horror, her face blanched, her brow writhed, and even her form would wring and sway with suppressed agony.

"O Lillie, Lillie! O John! poor children! Ah! how pretty she was! and how good! and how true! Dead, dead! and John to live, and I to live, and know what we know!" and she would sink down upon the floor and draw the heavy folds of her dress around her head to stifle the sobs and groans that would not be appeased.

"Ah! the poor baby!" this with a wild glance around the room. Then she would lift herself up, bury the lock of hair in the silver box, consign this to the deep chintz pocket which swung beneath her girdle, wash the hard, riven face, comb back the heavy white locks, tie the dark fold of cloth beneath her chin, and

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go forth with an unearthly calm, and white as the dead are white.

Thus several years passed away, unvarying days of toil, not outwardly turbulent if inwardly gloomy. But at length a change was affected by one of those designing women who so often take the destinies of a man into their own keeping, and in a way best known to themselves. Not far from the poor dwelling lived a man by the name of Farmer, with a small garden and field, in which he raised corn and some grass for a single cow, ekeing out a scanty living for himself and two daughters by intervals of labor at the saw-mills. The youngest of these girls was a tall, sallow-faced girl, with pale blue eyes and yellow hair, and a chronic sniff at the nose. She began to drop in at the house of John Stearns about the time of his nightly devotions, to listen, as she said, to his "wonderful gift of prayer." At these times she would seem to be quite carried away with religious fervor, and would expound Scripture with him in a most humble and inquiring manner.

Mrs. Stearns gave her but a chilly welcome on these occasions, and eyed her with little favor, if not with absolute dislike; but Janet Farmer was not to be baffled, and strove to make herself acceptable by aiding in the housework of the small family, and now and then the gift of a well-concocted pie, a plate of pickles or "pandowdy," and even a pair of long woolen stockings for the feet of John. So well did she embrace her opportunities that it soon became evident the latter would place her at the head of his household, which ere long was done.

No sooner was Janet fully installed than she began to show the "cloven foot," in the shape of a vile, malignant temper, a sharp tongue, and perpetual fault-finding. Mrs. Stearns palpably declined, mentally, under the jurisdiction of Janet. She grew more taciturn and moody, even losing, it would seem, a portion of that devotion to her son which had hitherto lent an interest if not a grace to her character. Not so with John; he bent his back manfully to the new burden, only redoubling his prayers and augmenting his habits of toil. One only charge, which the vindictive Janet brought against him, seemed in the least to disturb that stolid equanimity which marked his demeanor. She constantly accused him of spending money in haunts repugnant alike to his principles and taste.

"If you do not spend it in the *dram-shop*, where does your money go? I can count every cent you arn, and not quite two-thirds of it ever comes into this house. Where does it go?"

"Woman, have you not food and garments suitable to our condition? Have you not enough?"

"That's not the question, man, if you call me woman. How do you spend the rest of it?"

"That is my concern, not yours. Go to! I will hear no more!" and the man would bend upon her a brow of such stern menace that even Janet dare proceed no further.

On one of these altercations, after John left the house, Janet turned her wrath upon the mother, saying, "That son of your's got the very Old Serpent in him, in spite of all his prayin'. I'm jealousin' he'd wring my neck as he'd wring an old hen's, if he got right down mad, I do."

To this speech Mrs. Stearns, who had at first looked at her with anger, suddenly gave way to a wild fit of laughter, so uncontrollable that tears were in her eyes; and this was followed by one hysteric scream, at which she pressed her hands tightly over her mouth and hurried to her room, where she bolted the door and in solitude gained the mastery of her feelings.

"Well, I never!" ejaculated Janet; "Mother and son are just as sharp as steel, and like nobody else this side of fire and brimstone. I wish I may be blessed if I don't wish my cake was dough. I shall never see hide nor hair of his arnin's. Get out—scat!" This to the cat which had settled herself at her feet. "It's no use to cry for spilt milk. I may as well go and milk the critter, and make the best of what can't be cured. He's got an awful eye! 'twould go through a ten-inch plank, lettin' alone the heart of a timersome female!"

So Janet, finding she was apt to have the worst of it in these conjugal blandishments, learned gradually to avoid them, and contented herself with these indirect attacks and modes of inflicting punishment, which a mean-minded man or woman know so well how to use.

One child only was the result of this alliance, a hardy, handsome boy, who seemed to have taken what was best, however hidden, for there is always, in all characters, a secret spot where some roses, and perhaps lilies, lie choked by rank weeds, lacking only the right culture and light to bring them to perfection; so these secret graces and wholesome seeds, hidden, it is to be hoped, in either parent, were reproduced in the child, to the exclusion of the more poisonous or less beautiful; and Paul Stearns grew to be the sunshine of the household. He was bold, resolute, willful, with a bright word and a ready smile, to disarm its moodiness; and in him John had at length found a certain degree of content. Honest of heart and simple of purpose, he found

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no companionship with Janet, while the boy grew more and more into his heart.

"Ah me!" honest John would exclaim, "I'm not clear in my mind whether I am not guilty of sin in living under the roof with this woman, who brings out all that is bad in me and never the good. But they are not all alike, these women. I like to think they are not. It comforts me."

CHAPTER XI.

Keeping Score—A Crafty Woman—The Last Score.

I WONDER if every body in this world could be settled in just the place he is best able to fill, if this planet of ours would revolve as it now does, and hold its place in the ecliptic?

In the meanwhile, John Stearns entered, one night, his cheerless dwelling, and ate his supper in silence.

"What do you there, Mother?" he asked, turning sharply to the old woman, who sat making long lines with the tongs in the ashes of the hearth.

"She is always doing it, and keeps the ashes scattered about. Have done, Granny," and Janet wrenched the tongs from her hand.

"Where's Paul?" the man again demanded, looking about the room.

"He's off sparking, I guess. Let alone the tongs, Granny," for the old woman was reaching out her bony wrist and hand corded with veins to gain possession of them. John now took down a large Bible covered with leather, and read verse after verse, with his compressed lips and knitted brow bent over the sacred volume; while his wife sat with her chair tilted back on two legs against the wall, her lank ankles dangling below her short petticoats, and her knitting-needles clicking as only the needles of a shrew can click.

"John," suddenly called out the old woman, "do you remember Lillie Henry? I was just thinking of her."

The man's face contracted sharply, and he rose up and went to his bed-room without speaking.

"Where is Lillie Henry?" asked Mrs. Stearns.

"What put that name into your head?"

"Why, you yourself. You just asked John if he remembered her?"

"Did I?" this with a half cunning laugh, and partly the laugh of doting old age.

Both of the women sat long in silence, with no sound save the click, click of the knitting-needles, and now and then a coal as it dropped from the smouldering wood. At length the elder of the two stealthily got possession of the tongs, and commenced to make those long scores in the ashes before spoken of, while the wife eyed her with a scowl, but did not molest her. A family in which some painful secret is buried rarely thrives well, and hence, though John Stearns worked diligently and well, the household was poor, and its inmates as we have shown, moody.

The old mother was cursed with a perpetual sleeplessness. She seemed always awake, casting around her troubled, furtive glances, and rarely speaking. Accustomed to her mood Mrs. Stearns was compelled by the mere force of inertion, to leave the poor creature to her own method of sitting up half the night, scoring the ashes with the tongs—scraping them into heaps, and then laying coal after coal upon the top, and converting these heaps into intense pyramids of heat.

"What do you there all the time, Granny, scraping, scraping in the coals, till you make my hair stand on end?"

"I score down my troubles, and then I bury them up," this with a sort of laugh that was frightfully hyena-like.

"There now, Granny, tell me all about your troubles, can't you? You'd feel better to talk them over," said the other, in a wheedling way.

Granny's lips fell with a palsy kind of quiver, and she turned her dim eyes on the face of the speaker, but she answered nothing for awhile. At length she said:

"Lillie was not a bad girl, I know she was'nt, Did you never hear about that brother of hern, who—you know what he did?"

By this time the woman had tilted her chair to the floor and came close to the side of the feeble old creature, whose incoherent tongue had become so suddenly loosed.

"I've heard about that brother," she said—this was false, for that story, whatever it might have been, never before had been named in her presence by any one. The old woman had removed the tongs in her silence.

"It was an awful story, Granny. What became of the sister, Lillie?"

"Lillie! oh yes, Lillie. She was kind of like Ruth in the Bible; but she made John a changed man, and I hate her for it."

"How did she do it, Granny? Did John marry her?"

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"Get you to bed, and hold your tongue," cried the old woman. "You are John's wife, and Paul's mother, or I could kill you as easy as I could kill a snake."

"Oh Granny, you are worse to-night; you do not mean what you say. Your hands are as cold as ice, Granny, and your face as white as a cloth. What ails you?"

"I've seen her," she whispered. "Hark! surely somebody come into the room, and is standing behind me," and she looked stealthily over her shoulder.

"Whist, Granny; it's nothing! Where did Lillie die?"

"She didn't die. See who stands behind me. Somebody whispered 'ashes to ashes.' I feel a cold breath upon my neck. Who is it?"

"It's because you play with the ashes so much. Come to bed, now, Granny," and Janet shuddered.

The head fell forward upon the breast, the features worked fearfully—she started half up, crying, "John, John! she has come!" and then fell backward, dead.

John appeared, pale and haggard, from an inner room, and lifted the poor stiffening limbs, with the white hairs falling over the white face, and laid them on the bed, and then the sullen man burst into a flood of tears, and he murmured, "Thank God! my poor mother, you will feel your great burden no more!"

And so the palsied hand ceased to score its burden of sorrows in the chimney corner, and was gone where it has been said the Recording Angel sometimes blots out with a tear the errors of youth, or the wrongs that grow out of a too impassioned heart.

Then came the voice of prayer under the low roof as the minister wrestled in behalf of the living, and more than hinted at the faults of the dead; whereat Janet rolled her eyes furtively under her black bonnet, both in search of sympathy and as expressive of the trials she had endured. The sturdy mill-men, dressed reverently in their Sunday clothes, bent their broad shoulders to the burden of the dead, and bore it forth under the green pines, where the snows of winter spread a white sheet softly above her, and the cricket and grasshopper in summer-time sang lowly, and the ground sparrow and brown thrush trimmed their nests in the little hollows worn by the rain in the green turf. Whence she had come was no more known than whither she went, but all her griefs were remembered, and her ashes cared for by Him who does not permit a sparrow to fall to the ground without his notice.

John Stearns resumed his toil at the mills, but it was observed that his manner was more severe and his face more pallid, while he prayed and exhorted with redoubled fervor.

One day, while employed at his usual labor, a thought or memory seemed to strike upon his mind with the force of a blow, for he suddenly called a hand to take his place at the wheel and hurried home with a flushed and eager face. It was so unusual for him to return at this hour of the day, that he took his wife Janet quite by surprise, tumbling over the poor effects of his mother, searching into drawers, pulling down from the shelves, trying on gloves, and turning pockets inside out, all with a fierce and hurried curiosity.

The window was open, and the man stood at a little distance eyeing these proceedings with an expression of scorn and contempt such as they well merited. At length she took the silver box, of which we have before spoken, from the pocket, and held the lock of hair up to the light where it quivered like threads of gold.

A sharp pang must have shot through his heart, for the blood rushed to his face, and he sprang forward and with a stride entered by the low window. He seized the hand of the woman, and held it so tight that the fingers lost their grasp, and the hair fell upon the floor. While he stooped to pick it up, Janet was about to slip the box into her bosom, but he observed the movement—

"Give it here, woman."

"Lud! take it. The gift of some light wench or other, I'll be bound."

The pale look of agony upon his face might have softened any heart. So intense was it, that he staggered against the wall in silence.

"Oh, you needn't look that way," cried Janet; "I only hope she served you right. Pretty keepsake for a man to have in the house to catawaul over, and your lawful wife never to get a kind word out of your mouth. What's the good of the law when a woman has no more good of her husband than I have?"

John, contrary to what might have been expected, did not reply in anger; he stepped toward her and laid his hand upon her shoulder. She, mistaking the movement, drew herself back with a defiant attitude, and her eyes glared like those of an infuriated tiger.

"Strike me if you dare, John Stearns," she shrieked, rather than spoke.

"Janet, you have not a good husband in me. God knows I have begged and prayed to be otherwise than I am, but all my prayers confirm me in my—my—" he did not say hatred of you,

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nor repugnance, though he meant it—and so he left the sentence unfinished.

This conversation on his part, so far from softening Janet, served only to confirm her mean spirit of discontent and aggression.

"I'll have the law of you—I will, John Stearns. You can't accuse me of breaking the seventh commandment, you can't; nor of not getting your meals, nor of not mendin' your cloes, nor of not washin' of 'm—yes, and ironin' 'em, too; and keepin' your house, and bein' a willin' wife in all things, and a slave, and a drudge; I'se borne you a child, and took care on him, and he's a honor to us, and not a runagate to shame us; and for all this I'm no more to you than a stick or a stone, or a cat, or a dorg." Here, overcome by the enumeration of her grievances, she began to snuffle and pull at the sides of her apron, and even to sidle up to John in a sneaking, maudlin way, as if ready to be on terms if he would.

John Stearns rubbed the back of his hand over his great brown forehead, and neither repelled nor invited the movement. All that the woman had enumerated as claims upon him were true and not to be gainsaid, and yet his inner sense revolted at the idea of there being any wifely claim in them. Janet had approached so as to lean against him, sniffling and hanging her head; he took her very gently by the shoulders and placed her in a chair, where she sat like a bundle of rags, half fallen in a heap, her feet sticking out of the bundle. He resumed:

"Janet, you are a faithful woman to me"—he did not say wife—"and you do the best your nature admits—("you may well say that," she groaned sniffingly)—I am not a good husband to you; I do not understand these things—perhaps the world does not. This I can say, Janet, I abhor myself; I repent in dust and ashes; I call to the rocks to cover me, for when I would do good, evil is present with me."

"You're a hypocrite, and a heathen, an Amorite, and Gittite, and not fit to call a decent woman wife," cried Janet, springing to her feet.

"I am all that is bad in the sight of God, but not in the sight of man," he replied, meekly; and then for the first time seeming to notice the box and the lock of hair, which he held grasped in his hand, his ire broke forth:

"How dared you touch my mother's garments? How dared you pry into secrets that do not concern you? Look here, look here;" and he gathered in his arms all that lay scattered before him, and going to the great kitchen fire-place, where the wood burned brightly under a large iron pot, he swung the latter from the hook and heaped the articles into the flames, crowding them down with his heavy boot.

"Well! I declare, if there ain't a sin and a shame, a waste and a wantonness, I never see it! Good cloes, fit for any body to wear, burnt to cinders, and shame and contempt cast upon his own, old mother; as if her belongings was a pestilence, and a famine, and a sword, and destruction; and she'd a died of the pest and small-pox, lettin' alone the plague and spotted fever."

The man stood over the blaze watching it till all was consumed, and taking no heed to Janet, who had seized a broom, and half stooping as she worked, dug away at the boards of the floor as if nothing less than working her way into the cellar would ever content her. Seeing John walk out moodily and take his way to the mill, she stood grasping the broom and shooting her head out after him, and muttered to herself: "He's the very divil, I do believe, sent to torment and tempt me. If he arn't that, he's a bandit, and a pirate, and a buccaneer; and some day the law'll be down upon him, and I'll be left without a cent—a relic, and nothin' to buy my mournin' gownd with."

At this climax of misery she resumed the digging process with the broom, to get into the cellar, sniffed, and broke out croning an old hymn, beginning:

"Why should the children of a king
Go mourning all their days," etc.

TRANSPLANTING MEN.—If the oak, in its germ, has been set in a flower-pot you will not think of keeping it there. Yet the process of transplanting is ever a delicate one—it may be fatal. A shock is suffered, the courses of absorption, secretion, assimilation are interrupted, growth for a time is suspended, and the new soil may prove less genial than the old. The difficulties and trials which often lead men—especially professional men—to think of some change of location, are often but a needful test, a hardening and maturing process, a preparation for higher usefulness. Happy he who, amid all such trials, judges with the first Napoleon, that "the word impossible belongs only to a fool's vocabulary," and so finds his shoulders broadening with the burdens laid upon them. Yet such a result is the issue only of a holy boldness, a courage born of the Spirit. It is attained only by that faith which, amid all beating tempests and swelllng waves, is an anchor to the soul, sure and steadfast.—*Rev. Dr. Smith.*

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Notes of European Travel.

BY MRS. E. E. EVANS.

I WAS struck at the outset of my tour with the great care taken to avoid accidents in railway traveling. In England there is an elevated foot-bridge built over the road at all crowded stations, which is accessible at both ends by a flight of stairs, and over which it is not merely a matter of choice but of necessity to pass, as officials stand ready to prevent any person not an *employé* from crossing the road on the level of the track. The first time I noticed this convenient arrangement I thought of the station at Lynn, Mass., where scarcely a year passes without the loss of more than one life, through unhindered attempts to find a safe way amid the bewildering arrivals and departures of trains.

I spent some time in a small village in Switzerland, where the railway station was a little beyond the town. I often walked over in time for the railway train, because it was some amusement to see the few travelers come and go, and then those rails seemed to me in my loneliness a connecting link between that foreign land and my home in America. There was only one road leading from the village to the station, and this road (contrary to the usual custom which places the railway either above or below the more primitive thoroughfare), crossed the track and continued into the country.

Probably there were not a dozen vehicles passing that point in a day, and the few trains were almost always on time, and could be seen approaching for a long distance on either hand, nevertheless, the road was guarded by gates which were closed as soon as the whistle was heard at the stations about a mile beyond, on each side. Even the two puppies, which relieved by their gambols the monotonous existence of the station master, were safely housed before the cloud of steam above the distant curve announced the coming train; though I heard before leaving that one of them had been run over by the cars, a catastrophe which probably led to redoubled vigilance on the part of the authorities.

I often think of the methodical care with which the duties of that little station were fulfilled in contrast to the recklessness exhibited in the neighborhood of my present home. The railroad here crosses one of the principal streets of the town at the foot of a long and steep hill, which is the favorite resort for young people in winter for coasting purposes. Starting at the top, the adventurous youngsters dash down the hill gaining momentum as they go, and they are never better pleased then when they can cross the track without stopping, and after reaching the bottom of the valley go half way up the height beyond. There are no gates across the road at this dangerous point, no flagman to signal a crossing train, and even the engine-bell is not rung in passing the foot of the street, although it is a thoroughfare for carriages, and one side the view of the track is completely shut in by houses and projecting banks. One man was killed there a short time ago, and if it were not for the Providence, that seems to wait upon small boys, many of them would perish every year; though in the matter of railroads and other equally decisive agencies, it would seem better not to trust too strongly to miracles.

But this is a free country, and we have not only a right to be smashed up by hundreds, through the carelessness of an *employé*, but also to smash ourselves individually, if we choose to stand in the way of a passing train.

On the Continent, not only is safety of life and limb insured by timely precautions, but anxiety of mind, that insidious destroyer of health and comfort, is in such matters prevented by the methodical disposal of travelers, however great their numbers may be.

In the first place, the ticket offices are approached by a railed passage, admitting only one at a time, and applicants must here stand strictly upon the order of their going. This preliminary being settled, and baggage having been deposited with the proper officials, the traveler can rest in peace in the waiting-room of whichever class his ticket entitles him to, until his particular train is announced, and the previously fastened doors are thrown open for his egress upon the platform of the station. Restaurants, supplied with a great variety of good food, both hot and cold, are always attached to the waiting-rooms, and time is allowed for the comfortable eating of a meal, whenever a train is announced to stop for that purpose.

But the cars themselves are, in some respects, not so convenient as ours. Each carriage accommodates from eight to ten persons, and as it

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is seldom that one party of travelers can occupy all the seats, there is really less privacy in this confined space than in our longer cars. Besides the seats are at opposite sides, so that their occupants must stare each other in the face whether they will or not, and half the number must ride backward, which to many persons is very uncomfortable.

There are no sleeping cars, no water tanks, no closets on these trains, and thus a long journey is attended with some inconveniences which are obviated by the American plan. Once, on a German railroad, I traveled in a car having a small saloon attached, and I am not likely to forget the exception on account of an amusing incident which took place in consequence of the unusual construction of the apartment, one of the seats being interrupted for a short space to afford a passage through a sliding panel in the wall.

After the carriage was comfortably full a great burly man entered, to the surprise of all of us, who wondered how he intended to dispose of himself. He stood still in the vacant space for a few moments, then deliberately drew aside the skirts of his coat and stooped, as we supposed, to rest upon the arm of the nearest seat until there should be a vacancy. But instead of this, he sat down fair and square upon the floor, with, of course, the greater heaviness in his fall, because (being near-sighted) he had not noticed the cessation of the seats, and therefore had not anticipated so low a descent. It was one of the most comical scenes I ever witnessed! We all laughed, we could not help it, and the victim joined in quite heartily. But one young woman, a bride, on her wedding tour of a few miles with her husband, was so impressed that she gave herself up to an intensity of fun that I have never seen equaled. Such peals of laughter, so hearty and long-continued, and repressed for a time only to break out again with redoubled violence, would have driven most women into hysterics; and while enjoying the spectacle of such genuine mirth, I could not help admiring and almost envying the strength of nerve that would allow of such strong emotion without weariness or painful reaction. Her perfect simplicity of character, too, was an agreeable study in a world of artificial manners. The fear of annoying the hero of the incident never seemed to enter her head, and indeed, her enjoyment was so evidently void of any element of ridicule, that a much more sensitive person, than that big, good-natured gentleman, could have found no cause of resentment in its demonstration.

In Switzerland there are in use a few long cars for second and third-class passengers, with seats arranged in imitation of ours, but they are so plain in workmanship and so simply furnished as to offer no points of resemblance except in the general construction. Indeed, that agreeable combination of dark wood-work, rich upholstery, and stained glass, which decorate our most tasteful cars, are seldom met with in Europe, nor is such lavish expenditure in public conveyances necessary anywhere, though it would seem to be more appropriate abroad, where a dangerous and costly "smash up" is not an every-day occurrence as with us.

The seats of first-class cars are luxuriously stuffed and have arms and head-rests, but they are generally covered with plain drab cloth, and lay little claim to beauty of adornment. The second-class seats are not divided, and are covered generally with black haircloth; they are really more comfortable than the first-class, because when the carriage is not full there is a chance to lie down, whereas in the others one is obliged to sleep sitting upright. These carriages are warmed by tin cases covered with carpeting and filled with hot water. The third-class have bare wooden seats, the windows are not curtained and they contain no warming apparatus.

The great drawback to comfort everywhere is the prevalence of tobacco-smoke. It is true that there are carriages on every train where smoking is forbidden, as a printed notice on the door announces, but it is often impossible to find room in these for all who would fain escape being choked and sickened by the acrid fumes. On some railroads there are carriages especially for women, but these are occupied largely by mothers with young children, and sometimes, particularly at night, even tobacco-smoke is a lesser evil than an unventilated apartment filled with crying babies.

Besides, even these privileged places are sometimes separated by only a slight partition from the carriages where smoking is allowed, so that the fumes steal through the thin boards or are blown in at the open windows. Nor are first-class carriages exempt from the nuisance, as many a selfish traveler takes advantage of the absence of the guard to light his cigar, compromising the matter for his fellow passengers by putting his head partly out of the window, or he enjoys his weed more openly, after asking the permission which he knows they will be too polite to withhold. I thought before going abroad that I had seen a good deal of smoking and had supposed that I hated tobacco, but

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after beginning my travels on the Continent, I concluded that my opportunities for observation in the matter had been very limited, while my dislike had been a very feeble emotion, indeed, compared with my later feelings.

The division of the trains into so many small compartments prevents one annoyance, which is a disagreeable feature of American railway travel. I mean the legion of peddlers of books, papers, candies, and fruit, who follow each other in quick succession, and disturb passengers through both waking and sleeping hours. There are book-stalls containing good selections in all large stations, and refreshment-rooms also, and when the train halts only for a few moments, waiters rush out with trays filled with glasses of foaming beer or cool wine for the benefit of thirsty travelers.

I was once a passenger on an excursion train between Zurich and Lucerne. The car, a long one, like those in this country, was filled with cheerful, well-dressed people of the middle class. Among them was a party of young men, evidently bent upon a day of pleasure. One of them carried slung across his shoulder, as other travelers carried their knapsacks and opera glasses, a miniature wine-barrel, holding about three gallons, made of polished wood with an ornamental silver faucet. Soon after leaving the station he began to draw upon its supplies, and greatly amused the whole company by extracting alternate glasses of red and white wine which he handed about very freely to all who would accept a draught, while he swallowed a glassful himself for every one that he gave to others. I was then new to the customs of the country and looked on with amazement, expecting every moment to see this man, if not all the others, pass the bounds of harmless frolic into the excesses of a drunken revel. But no such result followed, and though he was in sight all day, and was as generous with his wine barrel upon the steamer as he had been on the cars, there was no perceptible effect other than a perhaps slight increase of his natural jollity.

The custom of locking the carriages, which seems to us so strange, is really a precaution for safety, which is called for by their construction. The doors being in the middle, like those of an ordinary carriage, it would be very easy, through the rapid and often unequal motion of the train, for people and things to fall out if the doors were not secure. But in other respects the practice is sometimes productive of disagreeable and even dangerous encounters. I have heard of several cases where rudeness, almost amounting to insult, was offered to unprotected women, which was stopped only by arrival at a station and an appeal to the guard by the offended party. Occasionally, too, a maniac or other desperate person is allowed to travel without sufficient restraint, and the lives of fellow passengers are thereby put in jeopardy. The guard is usually to be seen only while the train is standing at a station, there is no way of summoning him at other times, and no communication by means of a bell-rope between the cars and the engine, as with us. I knew of a recent instance in Germany, where a young lady traveled some distance alone in the same carriage with a strange man, who, after a long silence, began to unburden himself of various shawls and other wraps, then took off his hat, removed a wig of dark hair and replaced it by a yellow one, and added a false beard of the same color, remarking to the astonished girl that if she said a word on the subject to the guard or to any other person while they remained together, he would be the death of her. The guard looked in at the next station, but the man had wrapped himself again in his shawl and appeared to be sleeping, and the girl, though terribly frightened, thought it better to make no disturbance. Soon afterward the stranger left the car without taking any further notice of his companion, and who he was, whether a criminal escaping from justice or a detective on the track of a criminal, remained a mystery to her.

One of the pleasantest routes of travel anywhere in Europe is the Rhine. The steamers are small, and the favorite place of resort is, of course, the deck, which is divided in the center by the engine-house, the part forward being allotted to the third-class passengers, while the after part is occupied by all persons holding first and second-class railway tickets. This end of the deck is covered with an awning and furnished with comfortable seats along the sides, and camp chairs for those who wish to vary their position. The dinner-table is spread on deck, and tourists eat of the fish of the river upon which they are sailing, and drink of the fruit of the vines which grow upon the hills they are passing. Eating becomes an esthetic enjoyment when performed amid such surroundings, and I shall never forget the pleasure of my dinner on the Rhine. We sat down to the table as the boat was nearing the famous *Lurlei*, and every few moments some one would leave his seat to have a nearer view of a spot that charmed him, while several times all but the old travelers rose *en masse* to follow some enthusiastic Rhinelander to the other side of the boat to

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see a ruined castle and hear its former history. To add to the grandeur of the scenery, a heavy cloud rolled suddenly over the heavens, and the storm came down in a shower of rain, while the lightning played around us, and the thunder echoed grandly from the towering rocks of the neighboring shore.

One peculiar charm in traveling abroad, and one reason, no doubt, why a foreign tour refreshes Americans so much is, that all the people one meets seem cheerful, and what the Irish so expressively call "easy-going." No one seems to be in a hurry, nor to regard the journey as a necessary evil, to be endured in view of the point to be reached. Men appear to be free from the anxieties of business and women from domestic cares, and though there must be secret sorrow in many a life it is repressed on such occasions, and a general desire seems to prevail to enjoy as much as possible the natural scenery and the pleasures of society.

I was pleased everywhere on the Continent by the friendly manner of the inhabitants, which were as far removed from intrusiveness as from excessive reserve. In their cordial greeting to strangers and their readiness to converse with whoever happens to be their neighbor in a public conveyance or at a public table, there is evidently only a recognition of a common humanity and of the duty to make time pass as agreeably as possible under all circumstances, without a thought of meddling in the affairs of the individual.

The English, as a rule, do not respond very cordially to such overtures, and are consequently not much liked as travelers. Americans please much better by the great simplicity and freedom of their manners, but in their conversation they do not always preserve that nice distinction between topics of general and private interest which constitutes the charm of foreign sociality. No one, in that part of the world, ever enters or leaves a dining-room, a railway car, or any other place where he is for a time in the company of others, without bowing and uttering a few words of comprehensive greeting and farewell. In many hotels in Germany the host enters the dining-hall, just before the covers are removed, and bowing to his guests, wishes them "a good appetite," and the same expression is in general use from each member of the family to all the others at the home table.

In passing through some small villages I have been greeted by every one I met, but this custom has become obsolete in large towns where there is a great flow of travel. One day in Florence I sneezed in the street, and an old Italian passing by exclaimed, "God bless you!" in his own tongue, and as though I had been a familiar acquaintance. It is certainly pleasant for a lonely traveler to be met everywhere as though he were an old friend, and to read kindness and good will in the smiles and nods of strangers, even when he can not understand a word of their language.

OUT-DOOR PROFESSIONS FOR WOMEN.—And then there are out-door professions connected with a home which are as suitable for women as for men. The business of raising fruits and flowers is especially suited to woman, as also the management of the dairy; and for these the other sex are regularly instructed in endowed agricultural schools, while women can not share these advantages. The arts that ornament a home, such as drawing, painting, sculpture, and landscape gardening, are peculiarly appropriate for women as professions by which to secure an independence. Yet but a few have the opportunities which are abundantly given to the other sex.

These are all employments suited to woman, and such as would not take her from the peaceful retreat of a home of her own, which by these professions she might earn. Were these employments for women honored as matters of science, as are the professions of men; were institutions provided to train women in both the science and practice of domestic economy, domestic chemistry, and domestic hygiene, as men are trained in agricultural chemistry political economy, and the healing art; were there endowments providing a home and salary for women to train their own sex in its distinctive duties such as the professors of colleges gain—immediately a liberal profession would be created for women, far more suitable and attractive than the professions of men. Let this be done, and every young girl would pursue her education with an inspiring practical end, would gain a profession suited to her tastes, and an establishment for herself equal to her brother's, while she would learn to love and honor woman's profession.—

DR. ADAM CLARKE, who had a strong aversion to pork, was called upon to say grace at dinner, where the principal dish was roast pig. He is reported to have said on the occasion: "O Lord! if thou canst bless under the gospel what thou didst curse under the law, bless this pig!"

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Fern Grove Gymnasium.

BY MARY ALICE IVES SEYMOUR.

THE village of Roseneath, named in the sunny days of June, when sprays of prairie roses clustered against cottage walls, and scarlet buds of the "Michigan" hung over garden fences, was almost hidden by the green hills and rocky glens of Massachusetts's loveliest county, ever-glorious Berkshire.

Away from the noise and excitement of city life, the village children grew into beauty, strength, and happiness; the beauty which God's blessed sunshine and pure, sweet air gives to all who seek it, the strength which simple modes of life bring to all those who live plainly, peacefully, and contentedly, and the happiness that ever comes to those who live in love and charity with their neighbors. Some there were indeed, who were neither beautiful nor happy—coarse natures, discontented, fault-finding, jealous—such there must ever be in this human world, even as deadliest purple nightshade shares the sunlight with the balms and balsams of healing power in the flower-realm of nature. And as the nightshade loves to creep from its station in the shadow of stone-walls, or damp woodland dell, to the stronger sunlight that upholds the lily-bells, twining its poisoned tendrils upon the flower-stems, so the petty spite of some discontented human heart will whisper slanderous report against a fairer, purer nature than its own. Roseneath had its deadly nightshade, as well as its roses and lily-bells. With the former we have nothing to do, but leave them in the darkness they seem to love so well, and turn to the sunshine-loving natures who gathered around the village favorite, Marion Berkley.

Among these were numbered Lilian Lee, Carrie Gilbert, and Alice Dudley, three very beautiful girls, whom Alfred Renton, an artist from New York, had painted with Miss Berkley in his "Four Seasons," a picture which thrilled every one who looked upon it in last winter's exhibition at the Academy of Design.

"And who is Marion Berkley?" asked strangers who came to idle away summer days in the mountain air of Roseneath. The shock which the answer gave them seemed electric. "A Gymnastic teacher! *Only a Gymnastic teacher?* Oh, I thought she was some *young lady!*" And they relapsed into silence until again electrified by the superb beauty of the lady in question when they met her for the first time. Often it would be, as she passed them on horseback in the narrow mountain roads, where, reining in her thorough-bred, she would wait until they passed, or leap her horse at the first stone-wall and dash across the nearest meadow; but sometimes it would be in the hotel parlor, visiting her friends, while the charm of her voice-tone in conversation, her perfect command of the French and Italian languages, and the superior culture of her voice in singing, won their hearts.

Who she was, then, became a question of anxiety to both gentlemen and ladies; from different motives, however, of course! What fashionable woman of the world can endure as rival a frank, truthful woman, thoroughly educated, mentally and physically? Pure air, exercise, bathing, and simple fare are the good God's cosmetics, and sure to give the beauty of health when rightly used; a woman who uses these will most surely outrival the woman who devotes herself to the silly, poisonous nostrums found in drug stores. She is a battery of magnetic forces that no heart can resist. I speak advisedly, for the experience of several years as a teacher of French, Music, and Gymnastics convince me that young girls who excel in physical culture, and are mentally cultivated, are the favorites and pets of every social circle in which they move.

This was Miss Berkley's experience, and to aid the young girls of her village home, and others who had "graduated," she established a Gymnastic School, where the refining influences of Music, Art, Languages, and Belles Lettres were adapted to the mind, as the Dio Lewis System was used to develop the body.

As the September days deepened into the glorious month of October, when woodland hillsides are as flower-gardens to the sight, Miss Berkley gave her first Gymnasium Reception. Delicately-tinted notes found their way into the hands—I had almost said *hearts*—of those to whom they were addressed, for who can open an elegantly-written invitation, on delicately-perfumed paper, and resist that subtle refinement pervading even words like these?

"Miss Berkley will be happy to see —— —— in the Fern Grove Gymnasium on Thursday evening, at 7½ o'clock.

FERN GROVE, *Sept.* 28, 186—."

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Every invitation was accepted, and on the evening in question all the guests were ushered into the beautiful hall.

Curtained with scarlet, festooned with wreaths of hemlock and pine, and hung with paintings and engravings, the spacious gymnasium was the picture of comfort and luxury on that mild September evening, when opened for this first public reception.

At 8 o'clock, the pianist, Mr. Merivée, entered the brilliantly-lighted room and took his place at the piano. The merry laughter and pleasant talk of parents and friends was soon silenced, for as that grand *Marche des Amazons* rang out, the class entered the room, and Miss Berkley took her place upon the platform. Over forty young girls, dressed in a tasteful costume of white alpaca, with scarlet silk scarfs, followed Lilian Lee as she led them in with the Wand March. Around the room, then up to the platform they came in single file, and each one as she passed raised her hand to her forehead in the graceful military salute.

Lieutenant Berkley, who stood behind his sister's chair, returned them in gallant style, declaring he was wretched because his "brothers in arms" at West Point were deprived the sight of these, their lovely sister comrades! Brilliant and more brilliant flashed out the music, and more and more involved winded the graceful maze of the Wand March, but its height of grace was reached when Schulhoff's *Galop di Bravura* sparkled from the piano keys, and Lilian, with Carrie Gilbert, came down the room, the wands raised, and feet crossing in the graceful double steps. Quartettes followed, and then, marching back, unwound from the Victoria phalanx, and rapidly in single file wound, and again unwound, until each pupil had taken her place for wand exercise; and the music ceasing for awhile, Miss Berkley gave the order, "Parade rest."

The applause was long, and well deserved. Lilian and Carrie, the leaders, very prettily acknowledged it by another graceful salute, *à la militaire*, to the audience assembled on either side of the room. The Wedding March began, and at the signals, every wand was in position. Evenly and steadily the exercises were carried through, and as the last measures of the music trilled above the well-marked octaves in the bass, the whole class fell back; and as the final chords sounded they sank into their seats.

"Ah, that is something new, Marion!" exclaimed her brother. "They manage the *tempo* grandly; *musical* gymnasts, indeed!"

"They require *perfect* music, however," replied Marion; "then musicians, as the leaders are, they know just what to do to bring their exercise to a close, and adapt even their retreat to the *tempo* of the music."

After a few moments rest, and a great deal of flattering nonsense from Miss Berkley's young gentlemen friends, whom she told to congratulate the young girls on their success, Mr. Merivée began Wollenhaupt's "Dernier Sourire," and the class advanced for exercise with dumb bells.

"Waltzing may be the poetry of motion," whispered Mr. Renton to Mrs. Lee, "but indeed nothing can surpass the dreamful beauty of girlish figures in these attitudes. Take No. 10, or the 'long side charge,' it is the embodiment of grace and strength combined!"

And it was so. The exquisite contour of the figure as it rested on one slender ankle, the perfect slope of the arms from the beautiful little hands to the delicate foot, resting on the floor far behind, was admirably sustained; and when the young girls recovered themselves, and after the short exercise they again bent forward, arms extended and bodies beautifully poised, as if flying down to the floor, the applause was unbounded!

"No wonder you are enthusiastic over gymnastics," exclaimed friends who gathered about Miss Berkley when the class returned to their seats. "Perfect grace and skillful management of position is admirably attained by your pupils. How I wish you had on your costume, and would exercise with them."

"That blessing is rarely granted us," laughed Alice Dudley, her assistant teacher, but when she *does* give us a practical exemplification of an attitude, I long for the chisel of a Phidias!"

Marion merely pinched the ears of her friend, who sat on the footstool before her, and tried to hold her hand before her mouth to prevent further words, but Alice would not be silenced.

"You need not talk to me of the exquisite *pose* of the Venus de Milo, or the perfect repose of the Agrippina of the Muséa Bourbonique at Naples; had Marion lived in the age of Pericles, and gone off in that 'long side charge,' before Praxilites, or still later, in presence of Buonarotti, I think we should have had a marble Sappho, leaping from a marble rock of Lucrece, or some saintly Miriam leaning far over the rock-bound coast of the Red Sea, chanting her song of triumph and victory!"

A merry shout of laughter greeted this remark, but it grew still merrier when Mr. Merrivée said: "And had Mozart seen her we should have had something like this—" and he turned

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to the piano and flashed off a medley of the most joyous scintillations of that master's delicious genius.

"How some people would be shocked at classing gymnastics and Mozart together," said a friend, joining the group. "Do you know some parents have objected to gymnastics on the ground that they appertain to circus-riders, ballet-dancers, and the like? Others because it will be of no use to their daughters in society!"

"Utterly absurd!" exclaimed an old French gentleman, whose long residence among the higher circles of European society made his opinion somewhat regarded; "absurd; American girls need all the exercise in graceful attitudes they can get, to prevent them from stooping over, becoming hollow-chested, and— "

He ceased, for Marion's eyes flashed merrily as she softly whispered, "*pokey* every way."

"Yes," he resumed, laughing—'*pokey*,' that just expresses it. Unless American girls are careful, they are easily recognized by their mincing, *tetering* way of walking, and stooping shoulders. A love of grace alone ought to make girls anxious to be fine gymnasts."

"A love of *health* alone," interposed Marion, as she arose from her luxurious velvet chair and leaned her soft white cheek against her brother's shoulder. "Any thing but sallow complexions, or pepper-and-mustard looking skins! Ah, this free, graceful exercise of every muscle is the best cosmetic in the world!"

"And then it gives such admirable voice-tone," suggested Miss Alice and Mr. Renton at the same instant. "Come, Marion, while the class are resting, and so pleasantly surrounded by their young friends, sing for us."

"Any thing to uphold gymnastics," she replied, merrily—"here, Mr. Merivée, please accompany me." She placed before him the well known finale, '*Ah non giunge*.' Her full, rich voice lent pathos and expression to the melody. She hardly seemed her quiet, dignified self, only a fair, fresh girl among the woods and valleys of a pastoral home.

"Well, if gymnastics have helped her to sing like that," whispered a mother to her daughter, as the applause that followed the singing had somewhat subsided, "I hope, Mary, my child, you will practice very faithfully."

"Are you not fearful of too violent exercise?" questioned an anxious mother who sat near. "I am so afraid my children will over-exercise."

"Oh no, that will be impossible so long as they are with Miss Berkley," interposed Alice, who had caught the remark. "Miss Berkley is in the gymnasium whenever the class meet, and exercising as they do under her own eye, it is impossible for them to overwork. Of course, there is no knowing what a poor half-educated gymnastic teacher might do with her pupils, but when a teacher is thoroughly trained in the theory as well as practice of gymnastics, and in the study of physiology, no possible danger can arise from over-exertion. If a pupil, in direct disregard of her teacher's instructions, over-exerts herself out of class hours, the teacher is not to blame; and yet the best teachers have been blamed for this! Injustice is so easy!"

At this stage of the conversation, Miss Berkley appeared. She had heard enough to perceive Alice's drift. "Oh, yes," she added pleasantly, "injustice is very ready to be shown when we are in ignorance of the things we condemn. Doctors tell us not to eat this or that thing, not to overwork our digestive organs, and we disobey—sickness is the result—do we condemn doctors? Oh no, indeed, we send for them, and pay them well to cure us; but gymnastic teachers, oh dear—" She put on a look of despair, laughingly turned away, and motioned to Mr. Merivée to play Mabel Waltzes, and arranged the class for that most graceful of all exercises with apparatus, "Rings with Quartettes." This was followed by some selections from Free Gymnastics, and then, after another "rest," Mr. Merivée played a brilliant quickstep of his own composition, and the young girls went through with the Rapid March.

At its close, instead of resuming their seats, the folding-doors were thrown open and they *chasséed* out into the hall, then up the broad staircase into the drawing-room. Congratulations poured in upon every side. Miss Berkley and Alice Dudley were indeed proud of the success, and gladly promised other receptions of a similar kind. A few of the young people returned with their friends to the Gymnasium, to observe the tasteful decorations, particularly the floral treasures, placed in delicate vases on brackets, with long pendant vines swaying from them and seeming to waft from side to side the delicate perfume of heliotrope and tea-rose, while from the basket that adorned the piano, the odor of orange buds and starry jasmine filled the room.

"Some one has said that we only remember the shadow of the beautiful," remarked an old gentleman, as he bid Miss Berkley good night. "I assure you the shadows of these graceful girls will move through my dreams."

Reader, I have not been romancing, except in names and location. Such receptions I have witnessed, and known their good results.

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Keep Up with the Times.

BY MRS. M. A. KIDDER.

KEEP up with the times, ever treating the past
With all the respect that is due!
Our love for old times and old customs don't give
An excuse for neglecting the new.

In laying out money for comforts at home,
In spending the dollars and dimes,
Avoiding extravagance, folly, and waste,
'T is best to keep up with the times.

Keep up with the times as we journey along,
With the pure love of country at heart,
Resolved, with the help of the good and the true,
In the world to accomplish our part.

In storing our minds with all wisdom profound,
In hoarding up knowledge like gold,
In "buying the truth and in selling it not,"
Thus heeding the maxim of old;

We 'll join in the chorus of Progress divine,
And march to the sound of her chimes.
In childhood, in youth, in manhood and age,
We 'll try and keep up with the times!

Angel Whispers.—A Sonnet.

BY NATHAN UPHAM.

BRIGHTER than the stars of even,
Sweeter than the breath of dawn,
Purer than the dews of twilight,
Softer than the step of fawn,
Fairer than the lily's whiteness,
Kinder than the coo of dove,
Passing all in maiden brightness,
Glows the heart of her I love!
Earth is fairer for her footsteps,
But the angels watch on high—
As we watch the stars at even—
For the light of her bright eye;
And in whispers, softly tell,
"Soon she 'll come with us to dwell!"

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Take Care of your Noses.

BY REV. CHARLES H. BRIGHAM.

THIS will be remembered by the pupils of the late Dr. John C. Warren, of Boston, as the emphatic parting sentence of one of his most instructive and curious lectures. There is a sense of the ridiculous in all that is said about the nose, and we always laugh when we hear of disaster to this organ, however painful the injury may be. The nose is to the other features what the ass is to other quadrupeds, very useful, very important, indispensable indeed, yet still a subject for mirth and mockery. The proverbs about the nose are proverbs of contempt; and a special work on this theme, like that published some years ago by an unknown Englishman, will inevitably be mistaken for a joke or a satire. The eye and the ear have a dignity which the nose can not claim. They belong to a higher caste. They can be specialties in medical treatment. There are "eye doctors" and "ear doctors," but who ever heard of a "nose doctor?" Who ever saw the sign, "Diseases of the Nose attended to and cured?" Those who have pains and troubles in the other senses and their organs are quite free to talk about them; but the sense of smell is set aside from ordinary conversation, and there is shame in saying much about it. Half of the preachers who read that twelfth chapter of Paul's first letter to the Corinthians omit the seventeenth verse, which asks, "If the whole were hearing, where were the smelling?" The eye and ear can be educated, but no theory of the education of the nose has yet been announced. That is an inferior branch of æsthetics, which would seem as much out of place in a treatise on the culture of the senses as the songs of the negroes in a Catholic mass. Among all our societies of reform none has yet appeared to assert and vindicate the "Rights of the Nose."

This ridicule of the nose is not deserved. This maligned feature has not only intrinsic dignity, but biblical and ecclesiastical honor. According to the story of the Genesis, the first inspiration of the soul of man was when "God breathed into his nostrils." The nose was the vital organ in the primeval day, and life came in and went out through it. "The spirit of God is in my nostrils," says Job in his parable. And of the horse, the noblest of all animals, we read in the Hebrew song that "the glory of his nostrils is terrible." The nose is the sign of power and of command, more than any of the features. It makes the sign of life by the smoke which goes out from it. There is a very ancient picture in one of the Eastern churches representing the Almighty in the cloud when the prophet is waiting to hear his voice. The outline of the form and face is very dim, and the eye and mouth are not visible, but you see the nose distinctly in front, and it becomes the index of the picture. The prophet Amos distinctly shows us Jehovah indignantly refusing to "smell in their solemn assemblies."

And every visitor in Rome must have noticed the part that the nose plays in the most solemn ceremonies of the church. The Pope and Cardinals, on their knees before the altar, often break the course of their prayer by the opened snuff-box and the audible sneeze. Food is not to be allowed at that serious time, but there is no prohibition of Maccaboy. The requiem for the dead is more comfortably chanted with that tickling to the nostrils. Peanuts are not permitted in St. Peter's, but snuff is in place, and the high dignitaries pass it from hand to hand, and use it with zest and without fear. So, too, incense in the churches recognizes the right of the nose in worship, and assigns the sense of smell to the witnessing company of saints and angels.

The nose is the sign of many things, and has many uses, physical and spiritual too. It is the sign of temperament, of race, and of character. In comparative physiognomy it is the most important of the features. When men are likened to animals, or to birds, or to reptiles, or to fishes, the nose is the instrument and medium of observation. The nose is the bond which binds man in the physical line to the eye of ordinary observers. Without this organ, it would be hard to find resemblance of man to horses, or hawks, or frogs. The nose marks races, and is classified according to races. The Jews have one variety of nose, the Greeks another, the Romans another, and the Chinese another. There are family noses, too, which go on from one generation to another, as can be seen in the portraits of the French Bourbons, or the Scotch Stuarts. Every one knows that the shape of this organ tells the disposition of the man as well as his words could tell it, whether he is mild or violent, gentle or imperious, lazy or quick, careless or inquisitive. The nose tells,

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beyond mistake, what the deceptive tongue may try to hide. And it has much to do with the beauty of the face. Its ugliness may ruin the whole expression of the face, and spoil all the other features of their grace. The softest eyes, the most blooming complexion, are made repulsive by a broken nose, which transforms all their beauty. The Levitical law would not allow a flat-nosed man, more than a dwarf or a hunchback, to offer sacrifices at the altar. It is true, that tastes differ in the estimate of beauty in this organ. To some the Roman nose is as awkward as the pug nose is pitiful, while others are fascinated by the "celestial" nose on the face of a young virgin. The nose of the Mongol or Hottentot has no charm for the Spaniard or Frenchman. It has not yet been settled what is the curve of absolute beauty, or whether the typical nose is the straight nose of the Greek divinities. The nose that is right for men is not quite fit for women, and the attractive Petrea of Miss Bremer's novel is not envied in the length of this organ. The perfect nose is very rare, in life or on canvas; as rare as the faultless character. The Grecian nose, so much prized, is in its pure state as difficult to find as a white weasel in summer; you look in vain for it among the loungers and the beauties of Athens today. That very respectable nose, the sign of wisdom, which has the name of "cogitative nose" in the text-books, can not be well described from the living subject. The greatest thinkers have not had it. Noses are unquestionably the indication of character, but the study of character from them is as complicated and difficult as the Positive Philosophy in Comte's exposition. The basis of the system is not yet settled, nor the canons of criticism. Even the practical induction, that tells of the habits of a man by his nose, is by no means trustworthy. Mr. Nasby's friend was sure that he was a sound Democrat, of the New York city pattern, and a "repeater," too, by that nose of his. Yet it would not be safe to see in every man a toper who has the nose of a toper—red and bloated. Some of the leaders in the Temperance movement, the extreme Nazirites, have fire upon their nostrils as fierce and intense as any victim of the intoxicating cup. The most active man in the movement in Massachusetts was once, from this sign, embraced in the street by a drunkard as a brother.

But considerations of nasal æsthetics are aside from the the purpose of this essay. We confine ourselves rather to the nose as a sanitary agent, to the bearing and influence of the nose on health and physical soundness. The nose has many physical uses. According to an old lyric, which the New England children of the last generation knew by heart, the chief use of the nose was to wear spectacles for the convenience of the eyes; and certainly, without the nose the eyes would have a poor chance, in their short sight or dim sight. A barber finds the nose very convenient in plying his trade; it is a handle for the face, steadying this for his scraping. Among savage tribes, and even in some cities, the nose bears ornament; there are rings in its cartilages, as through the ear or on the fingers. The nose of the bullock has been from the earliest time the instrument of his subjection; when he is led by that he is docile, and is the servant of his master. The hound's nose in the hunt assists in a sport as primitive as it is enduring. If Nimrod hunted without the hounds, his name of "mighty hunter" is misapplied. Actæon, we know, had them, and found them rather false friends. A mild but very significant form of assault used to be in tweaking the nose of a foe. This was the preliminary to a duel, in the days before revolvers were invented. And the recent comedy of nose-pulling, which consigned an amazed aristocrat of Boston to sixty days in the common jail, proved to be what Bottom in the play calls "very tragical mirth." What are we coming to, if a gentleman can not pull the nose of a snob who insults him, without suffering the fate of a vile criminal? What else is a blackguard's nose good for?

The first sanitary use of the nose which we mention is, that it *equalizes the temperature of the body*, prepares the air for breathing, and gives to it the proper warmth and tone. The nostrils are really the "registers" of the human furnace, admitting or keeping out the air that is too hot or too cold. Through these passages the degree of animal heat is regulated and adjusted, and the body is made capable of bearing extremes, whether of heat or cold. A well-conditioned nose gives a traveler in Siberia, or in Ceylon, great advantages in meeting the trial of those climates. The nose is the natural respirator, better than any arrangement of wire or sponge. It protects the lungs more effectually than flannel, and it saves the throat from serious danger. The Hebrew song was scientific in showing the breath of life coming in through this organ, and the smoke of strength coming out through the nostrils. Breathing through the nostril is safer than breathing through the opened mouth. The harsh air is softened in its passage through these tubes, and does not irritate as when taken by the throat directly.

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The untutored Indian, even in his running, keeps his lips closed and breathes through his nostrils, and so is nearly exempt from pulmonary disease, either of inflammation or of tubercle. Colds are less likely to come where the nose is made to do its whole duty. The nose is not merely a safety-valve to let off in "refreshing sneezes" the pent up vapors of the head and throat, but is really a regulator of the whole machine, keeping the brain and lungs and stomach in harmony, and preventing quarrel among the members. Without the happy mediation of this regulator there would be perpetual schism in the body. The nerves of sensation and of motion would be constantly at war.

Another sanitary office of the nose is in *detecting nuisances of all kinds*. It warns of danger as effectually as a watch-dog, or as an alarm-bell. It scents the poisonous effluvia, and the noxious gases. It protests continually against uncleanness and filth. A sensitive nose keeps one from living near shambles, and tripe factories, and bone-boiling vats, and tanneries, and breweries, and distilleries, and chemical works, against living in cities that have no sewers, or in streets that have no light. The nose finds the danger in tenement-houses, without any nearer inspection, and the horrors of the middle passage in the emigrant ships. The gospel of purity has this as one of its best missionaries, and sends it forward as a spy, as Joshua sent his spies to find out the ways of Canaan. If the warning of the nose is heeded, the dens and burrows where vice and misery fester will be cleared away, and the sun let in upon the hiding-places of pollution. The nose, too, is a skilful physician in diagnosis, if not in treatment. It finds infallibly some of the worst diseases. It is surer than the eye in separating the elements of relief, in distinguishing drugs and draughts; it makes tasting unnecessary in how many cases. Animals use it to choose their food; what has not the right odor they will not take into the mouth. And the animal instinct would be a safe guide to men and women in their choice of food. It is a safe rule to follow, never to eat any thing that has an unpleasant smell, never to wear any thing that offends this sense, never to live in any place where this sense is vexed and irritated. A sea prospect may be fascinating, and the breezes bracing, but if, when the tide is down, a long reach of nauseous mud fills the house with sickening odor, it is better to heed the protest of the nostrils and live farther inland. None may safely neglect the warnings of this demonstrator of poison in the air.

And then the nose has a third office of ministering to health, *in the exquisite pleasure which its sensations give*. What is there more delightful as sensual enjoyment than the smell of perfumes? The nose catches that part of pleasure which is the most imponderable and ethereal, the finer essence, which is so invisible and yet so penetrating. Half the worth of the lily, the rose, the hyacinth, of all the flowers in the garden comes to us in this sense. And when all the other beauty of the flowers is lost, when they are crushed and broken, this may be kept and concentrated, and the highest joy of the garden be spread upon the toilet table. We can not tell how much of the real nutrition of the body comes through this sense. Swedenborg somewhere maintains that the fine essences of food are removed and taken from its grosser parts directly to the brain, without any aid from the digestive process. In this way, it may be, the cooks in the kitchen are fed before the guests in the hall; and it explains the fact of so many loungers by the basement stories of the large hotels. The pleasure of smoking tobacco, by which so many souls are deluded, is not, as they think, in the *taste* of the smoke, but in its smell. It satisfies the same organ as the snuff which the Head of the Catholic Church is so fond of taking. A recent exposition of the story, makes it not wonderful that, even in his submarine prison, Jonah was in the mood for thanksgiving, since "the *weeds* were wrapped about his head." Evidently he had a well-filled pipe, and was enjoying the fragrant cloud which changed the confined atmosphere of that unwholesome interior.

Useful as the nose is, there is no organ more shamefully trifled with, and more injured by bad treatment. If it can not be educated, like the ear or the eye, it can certainly be depraved by bad habits and bad associations. It can be made to lose its sensitiveness, to cease to give its quickening joys and its timely warnings. A nose that has no sensitiveness has parted with its best power of service, and is not much better than an excrescence. It is a perpetual lie, pretending to an influence which it can not exert. It is the victim of catarrh, moreover, as much as if it were in good condition. And a nose that is out of order may bring a deal of misery. What is more vexatious than the cold in the head, which makes the man who has it a nuisance everywhere, in his changed articulation, and inflamed nostrils? How we pity the mighty man, whose composure is destroyed by the fever which shuts his nostrils, and fills their passages, drawing wretchedness from the aroma of the

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hay-field or the rich perfume of the rose! The eagle eye of Daniel Webster was dimmed in the last days of summer, by the agency of that thin nostril beneath it, which changed the grand round tones of his majestic voice into a thin, husky, snuffling. Nature condemns some to this misery, but by far the larger part of those who suffer from nasal troubles and complaints suffer in consequence of their own negligence and imprudence. Even the habit of speaking through the nose, which is an American characteristic, is in half the cases acquired rather than natural. Few will probably insist that prayer through the nose, fervent as it may be, will get a speedier or fuller answer from this style of utterance. The neigh of the horse is a positive sound, but the human nose has only a sharp negative in its attempt to tell thought or emotion.

Catarrh is the interior misery of the nose. It has also its exterior miseries; less frequent, perhaps, but still annoying, and sometimes painful. Redness is one of these, a chronic blaze, lighting up as with angry fires, all the countenance. Carbuncle, too, chooses this conspicuous eminence quite often for the display of its venomous ravage. A wart upon the nose is an identifying mark which has arrested more than one evil-doer. And the outward symmetry of the organ may yield to the disease of the bone which holds it up, until it becomes only an orifice on the face. There are noses of men which wear, as in the feline race, a brush of whisker around and on their point. The pathology of the nose, if not so full as that of the eye, is yet not insignificant.

Of course, where an organ is so important, so prominent, so significant, so liable to get out of order, its health should be a serious concern. "How to get a cogitative nose," the title of one of the chapters in the volume already referred to, is of less moment than the question, how to keep the nose decent and respectable, to keep it from being an offence to others and a pain to one's self. And a few simple rules may be mentioned, not less valuable that they are so simple. First, *avoid all excesses*, in eating or drinking, or any kind of sensual indulgence. Eschew vice, in any and every form. Other things being equal, the chances are that the nose of a sober man, who keeps the Commandments and shuns the intoxicating cup, will show its natural color, and be saved from the loathsome maladies which swell and fester on the nose of the drunkard and the profligate. Strong wines, strong liquors, rich food, and the sin of the house of pollution, are the worst foes of the nose, and no art of cosmetics can overcome their power, or neutralize their work. They break through all disguises, and expose the sinner's guilt and shame. The nose pleads with its owner to be temperate in all things.

Then a second rule is, *not to vex the nose with foreign substance.* In spite of the habit of the Pope and Cardinals, snuff-taking has not been raised into a dogma, or a law of the Holy Catholic Church, or imposed as a duty upon the faithful. It is possible to inherit the kingdom of God without it. In spite of the tradition of the Puritans in New England, the dust of tobacco can not be taken as food for the olfactory nerves. Foreign substances will get into the nostrils, in spite of all our heed. But it is foolish deliberately to throw or draw them in. Snuff in the nose is no more reasonable or safe than sand or iron-filings. To these men can get accustomed; and the patriotic Californian pleads that the daily sand-storm, which fills his eyes and nose in the streets of San Francisco, is delightful and exhilarating. It is dangerous, nevertheless. Except as a medicine, no palpable substances should ever be taken into the nostrils; nothing more solid than water. Soap and sand may do for the floor, but not for the mucous membrane.

Then a third rule is, to *let the nose alone*, not to handle it, or paint it, or try by art to change its shape or remove its deformities. It may be protected from extreme cold by suitable covering, but in most climates it can be left free and uncovered without risk, and is better so. Manipulation only aggravates its cutaneous maladies. If it is misshapen, bear the misfortune, and trust to overcome the bad impression of the face by the faithfulness of an upright life. Wait rather for the silent and subtle influence of feeling upon the physical frame, and do not try to change nature where nature resists so obstinately. Let the nose have its own way, and do its own work, and heal its own natural lesions. Interference with this organ is not dignified. We knew a schoolmaster who lost the respect of his pupils because his nose was always shining from the incessant friction of his wandering fingers.

We might add some words upon the habit of *sneezing*, which is by some hated as a vulgar indecorum, while others rejoice in it as an excellent omen. Whether the blessing of God will always follow the spasmodic contraction is more than we can tell. But if sneezing be good, like all other good things, it should be kept within bounds. A sneeze in company should be suppressed, and not allowed to proclaim itself too loudly. It is as untimely as the audible

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sleep, which disturbs in church the calmness of the worshippers. Of late the new theory has been advanced that sneezing is of the throat more than the nostrils, and is a twin brother to the cough. We need not enter into that discussion. When we are alone, the heartier and more sonorous the sneeze is, the more perfect will be its work. But in society, it should always be modest in its strength and its proportions.

We have said nothing about the intrusive use of the nose, when a man meddles with what is no business of his own, since that proverbial use is secondary and metaphorical, and these essays deal only with literal, physical facts.

Spurs and Reins for those who Need them.

BY J. R. SNODGRASS.

WAKE UP!

THERE are other sleeps beside that which requires the closure of the eyelids as one of its conditions. There are people, not a few, who are sound asleep, to all practical purposes, while their outward eyes are wide open.

The Bible speaks of this class of people as those who "have eyes, but see not," and puts them in the same category with those who "have ears, but hear not."

Some people go through the world as if they were asleep to all the interests of life, excepting, perhaps, those concerning their animal nature merely, such as the processes of eating and drinking, common to all animals. They see nothing beyond these wants, and hence those conditions and exertions relating to the supply of higher wants are all unknown to them. As to observing the wants of their fellow beings, that is utterly out of the question. It never enters into the thoughts of such "sleepy heads" as theirs, that any body else has any wants!

The class of persons to which I refer may be said to go about, like the swine, rooting for themselves, and grunting selfishly as they go! They are practically asleep to all the world beside. And they may be expected, when their time comes, to "perish as the swine perisheth."

Now, to all such I would say, "Wake up!" It is not a true life you are leading. You are utterly at fault. You are either too stupid or too selfish—perhaps both. Keep awake to all that is going on around you. You are living in a wide-awake, active world. While you sleep it moves. Ay, and it moves gloriously as to all who do their duty—ignobly to such only as sleep all the while, like yourself!

Let one and all wake up! Remember, "eternal vigilance is the price of liberty," not in politics only, but in all the other departments and concerns of life.

RICH MEN'S SONS.

Desirable as wealth is, behold how little it generally blesses those who have inherited it, but especially the sons of rich men. Indeed, inherited wealth has so frequently proved a curse, rather than a blessing, to such persons, that observant people are moved, by the very sight of them, to exclaim, "*poor* fellow, we pity you!"

And is there not abundant room for pity, instead of congratulation, in view of the temptations to which rich men's sons are almost inevitably subjected? The surest of these is the temptation to idleness, which has aptly been called the mother of vice.

While labor is falsely viewed, by society in general, as a curse and a degradation, how can the children of opulent parents be expected to take pleasure in it? Should they not rather be expected to shun it?

But, apart from social considerations, where is the *motive* to come from to the rich man's son? The sons of the poor, who have, at most, inherited a good name, have the stimulus of prospective improvement, in their pecuniary condition, as their motive. Laboring, at the beginning of life, from necessity, they soon acquire the *habit* of industry, which is a great thing, and henceforward they work from the very love of work. To them, now, activity is a necessity. Idleness would prove a great bore, if not an actual calamity.

When first independence, and then wealth, perchance, crowns the perseverance of the last-named class—poor men's sons—they know how to appreciate the value of their acquisitions. They are not so apt to squander their means as

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those who have inherited it. "Come easy, go easy," has no application to them. But it applies quite commonly to rich men's sons, and too many of them realize its truth, to their sorrow, in the end.

Now, in writing this, I have had a practical point in view. It is this: that every father, and especially every wealthy father, should give his sons some trade. I use the word in its widest sense—that is, as meaning some settled, systematic line of employment, whether called a trade, a profession, or a business. This, if never followed by them in manhood, will be of no disadvantage to them then, but an actual advantage by dint of the development of mind, if not of muscle also, effected by it, as a means of physical culture. But it may be needed in the future of even the rich man's son, because of unforseen reverses, and it will then become a blessing indeed—a source of self-dependence, and consequently of independence as to relatives or neighbors, who will be all too ready to scoff at the unfortunate, especially where envy has been excited by previous affluence.

DEBT!

Observant reader—you who have lived long enough to have the tutorage of experience, whether your lot has been cast in the populous city, the quiet village, or the still more quiet country—I appeal to you: Is not the word "debt" deserving of the exclamation point I have affixed to it?

When I mention debt, I allude not to obligations carefully and wisely incurred in the due course of a legitimate business. When incurred by men employed in the primitive and ever-honorable toil of the farmer, who really needs a little more land and safely buys it on credit, or such as have land which needs money to make it fruitful, or by those discreetly engaged in commerce or pursuing some mechanical trade, I have no word of condemnation for debt. I allude to it under a very different class of circumstances—to its incurment where it might be, and therefore *should* be, avoided—when other motives, very different from those enumerated above, have invited it. Shall I, need I name them? I trow not. They are all around us. They are patent in the results, the woeful results of every day life—in the fine house, and the finer furniture and equipages, that are owned but not paid for; in the gaudy garments and glittering jewels worn by people who, as all their acquaintances well know, can not afford them!

Such debtors as these are doubly slaves. They are slaves to their vanity as well as slaves to their creditors. Once these, their masters, could have asserted their control over them with their incarceration in any State of the Union, and in some of the States that is still the creditor's legal remedy. Who will say it would not serve *some* debtors right to imprison them, howsoever unjust to the honest and really unfortunate debtor such a course would be?

I repeat the thought: Debt is a species of slavery. As such, it is an evil to be shunned, not invited—often a crying and cruel evil. Once in it, to get out of it is almost as difficult as it was to throw off the fabled shirt of Nessus.

Let all keep out of debt who can!

WAR.

If it be true that a condition of peace is the time to prepare for war, is it not equally true that a pacific era, such as we Americans are again enjoying, is a good time to reassure ourselves of the disadvantages, not to say the horrors of war, and of the blessings of peace?

Lord Clarendon took no superficial view of war, when he declared that it lays a people's natures and manners waste equally with their fields and habitations, and that it is as difficult to preserve the beauty of the one as the integrity of the other, under the violent jurisdiction of drums and trumpets.

That war does thus play sad havoc with popular morals all history lamentably warns us, and herein lies the secret of the ultimate downfall of nations that seek rather than shun it.

Blessed, indeed, are the arts of Peace as compared with the arts of War! And lucky is that nation whose rulers have not the power, attributed to Cadmus of old, to cause armies to spring from dragon's teeth scattered upon the ground. The more costly wars prove to be, the more likely are they to be shunned, when once a people have a taste of the heavy debt which they never fail to leave behind them, as a legacy.

Imagine the expenditures at all our armories diverted to the uses of peace instead of war—to the manufacture of the implements of agriculture, instead of those of warfare—and you will have a glimpse of the blessings of the "good time coming," when swords are to be converted into plowshares and spears into pruning-hooks, and the nations are to learn war no more.

Trite as that citation will sound to my readers, I ask them whether there is any other more welcome to their minds? I confess there is no picture more inviting, to my own mind, than a

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great nation, such as ours, at peace, not only with itself, but all the world beside.

Let us see to it, henceforward, that, while our war steeds are ready, they are also tightly reined.

THE GOLDEN MEAN.

"*Juste milieu,*" is a favorite phrase with a certain French school of politicians. By it they express what they consider middle ground between the old-fashioned monarchial and the new-fashioned republican principles of government. But the true meaning of the phrase would give us, in English, what we call the 'golden mean"—a point well worth seeking for in all the affairs of life.

The tendency of the American people has been, of late years, to grow too much like the French, in their politico-economical action. For example, look at the history of our commerce. Now we have had expansion, then contraction, in our credit system—one year the liveliest activity in mercantile life, with a tendency to importations far beyond our legitimate means of payment, to be followed, the next year, by stagnation, perhaps pressure.

The same is the case with our politics. At one time we are all excitement about some election. We seem to forget every thing but politics. For the time, every other interest suffers from neglect. Then, again, every thing is quiet, almost the quietude of indifference reigning as to the state of the country.

Nor has literature wholly escaped this tendency to extremes, as more than one crisis in "cheap publications" has borne witness, to the sorrow of the publishers and all considerate people—the former because of losses rather than profits, the latter because of the demoralization of the popular taste.

What is most desirable is, the observance of the *juste milieu*, or "golden mean," in all the affairs of life—in our commerce, in our politics, and our literature alike. That once secured, all will be well.

DRONES.

The habits and traits of animals, through all the classifications of Zoölogy, from the mastodon down to the most diminutive insect, are full of instruction to man. They have furnished not a few of the most striking and expressive of the analogies of our language. Often the simple name of some animal expresses our thought more clearly than a dozen less emblematic words would do it, as when we speak of mammoth size, snail pace, etc. How striking the analogy between a hive of bees and a community of men. Every community furnishes people who answer to the two classes of bees—the workers and the drones.

There is nothing more creditable to be said of a business man, that he is "as busy as a bee." But what is more discreditable, in the whole vocabulary of language, than the epithet, "drone?" Who, with the least spark of manliness or self-respect left in his bosom, would run the risk of having such an epithet applied to him with the slightest ground for deserving it? Surely, no one.

Young man, have you the doubtful advantage of a wealthy parentage? Have you been wont to persuade yourself that there is no necessity for having a profession, or trade, or business of any sort? You are lamentably mistaken, if you have. Correct your mistake at once. If you do not, it may prove to be the "mistake of a life-time," when too late to correct it.

In any event, don't be a drone, my friend! Do *something* for the sake of your own physical health and mental contentment, to say nothing of higher motives. Do something that shall make yourself, while living, feel conscious that you live for some useful purpose. Thereby you will justify your neighbors in saying, when you are dead, that your were a "useful man."

Disgrace to all drones! Honor to all workers!

"I CAN'T!"

That expression would be bad enough on the tongue of an infant. To manhood, or womanhood, it is a positive disgrace.

How do you *know* you "can't?" Have you tried? Well, suppose you have—try once more. As the song says:

"Try, try again!"

Final success will make you feel all the prouder for your temporary failure—and stronger too. The task before you may be difficult. What if it is? It is for that very reason, all the more worthy of the attempt of a noble soul. If it were but an easy one, any numbskull might perform it. But then it would be no credit to *you*.

Resolve to know no such word as "can't!"

FASTIDIOUSNESS OF NATURE.—No two human beings were ever alike either in body or mind. In other words, Nature has been engaged in making men and women six thousand years, without making one she thought worth while to repeat.

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Growth and Development.—III.

BY ARCHIBALD MACLAREN, OF THE OXFORD GYMNASIUM.

RAPID UPWARD GROWTH.

ANOTHER feature of rapid upward growth is that the chest scarcely expands at all during the process. It will be seen to run up from the waist without any expansion whatever, while the shoulders fold round to the front, and the head stoops forward from the base of the column of the neck; and seldom does a straight spine accompany such abnormal growth. I have known the chest to actually diminish in girth—grow narrower and narrower—as if it were tightened up by the extreme elongation of the general frame. Now the reason for these displacements is, that all these parts are held in their respective places by certain muscles arranged for this purpose; and as the muscles can only maintain their contractile power by frequent and varied exercise, they can not do this duty if they are denied that which is necessary to their functional ability. This law, which does not apply to these parts alone, but to every part of the body, is markedly seen in the muscles of the trunk. Were these duly exercised, stooping would be impossible, that is, continuous stooping, which involves the origin of many evils of development. Because, if the muscles of this region possessed their proper degree of power, they would of course perform adequately their functions—and one of these is to keep the body upright. It is as useless therefore to tell a boy thus imperfectly developed not to stoop, as to forbid him to cough when he has a cold, or to limp when he is lame.

STUNTED YOUTH.

Another abnormal form of growth, but much less frequent, is the opposite to the foregoing—is where the frame seems stunted from its natural height. This dwarfed and arrested growth will be found to have arisen in the majority of cases from some cause which interfered with the proper nutrition of the general system, and it in consequence may be inferred that any means which will restore this condition will restore the naturally attainable capacity for growth and development in the frame, so far as this may yet be extended over the natural period of growth still remaining.*

*A remarkable instance of this came under my observation a few years ago. A youth whose growth had for some time been stationary at the height of five feet two and five-eighth inches, suddenly from the practice of systematized exercise began to grow at a fair and regular rate, and at the age of 21, when he went to India, his height was five feet six and one-fourth inches. Another instance is that of a school-boy whose growth had been all but arrested from a severe fall in childhood. Almost instantly systematized exercise started his latent powers of growth, and in nine months he had grown eight and seven-eighths of an inch.

ONE-SIDED GROWTH.

Growing to one side, as it is called, is another form of mal-growth frequently to be seen, consisting of a disproportionate development, if not of actual elongation of one side of the body. I have not been able to trace this conformation to unusual employment of the side where the development preponderates, as would be expected; where I find this conformation it is usually with boys who take little or no exercise. No form of mal-growth, however, is more susceptible of rectification by skillfully-administered exercise. Like all departures from normal growth, this evil extends beyond itself and is productive of other evils. Lateral spinal curvature is one of its frequent results.

There are many other forms of mal-growth and partial development, all open to the curative influence of systematized exercise, to be seen with painful frequency of every school, less striking it may be, but all in importance, and all claiming the serious attention of those who are intrusted with the care and education of the young. In partial development alone—where no trace of mal-formation exists—an argument more powerful than any which I have advanced, or can yet advance, exists for the adoption of a clearly-defined system of bodily training at our large schools. I find that almost every youth at the time of passing from these to the University has, as it were, a considerable amount of attainable power and material capacity undeveloped; his body, or rather a portion of it, is in arrears in this respect, and as arrears, and as a recoverable debt, the youth may fairly view it. A large instalment of it he may obtain immediately. I find that during the first term (two months), with properly-administered systematized exercise, the chest will expand, under all ordinary circumstances, two inches, and under peculiar circumstances I have known it reach

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double that amount. The general rule also is that where the chest has been neglected and is consequently in arrears in development, the arms and shoulders will have shared the neglect and so of course show a proportionate want of development. And these, as they share in all the work of the chest—are in fact the medium through which the chest receives almost all its exercise—share in the gain proportionately. Now had these parts received an adequate share of employment up to this time, this sudden development would be impossible, and it must have been arrears of expansion, otherwise the rate of increase would be sustained after the first term, which is not the case.

But it is not only, or even chiefly, for the faultily-growth, the imperfectly-developed, and the weak—although to these it is a necessity, a necessity if they are ever to be strong—that I plead for the regular adoption of a system of educational bodily exercise in our schools. What should we think of that schoolmaster, who, because a boy was apt and capable, and for his years well-instructed, would therefore and thenceforward leave him to his own resources and inclinations? Yet in truth similar are the reasons we constantly hear adduced when physical culture is mentioned. We hear men say, "all exercise should be free, should be voluntary, should be left entirely to a boy's own choice, inclinations, and disposition." Do we leave him the same license with other agents of health? his diet, for instance, or his hours of rest or of study? Yet none of these are more important to his welfare and well-being, present and future, than exercise.* Whatever may be the developed capacity of the untrained body it is as far from the symmetry and strength to which it may attain with proper culture, as is the clever but self-taught man from what he would have been with thorough educational training. Certain points in his character stand out large and prominent, powerful in a given line of action, but others are dwarfed and stunted, and show the more meanly from the prominence of others. So it is with physical development and with physical culture; the assiduous and exclusive application to a favorite exercise will strengthen and develop the parts engaged in its practice, but this pre-supposes the neglect of the remainder, and the result in both cases, the mental and physical, will be the same—inharmoniousness, incompleteness.

*In fact there are many boys, more than one inexperienced in such points would easily believe, who if left to their own inclinations take no exercise at all, or take it so listlessly that the results are *nil*. Yet these are the very boys that need exercise the most of all, and their reluctance to enter upon it, and feebleness and awkwardness in pursuing it, is the strongest proof of their great need of it, the strongest proof that as boys they are not living boys' lives—and the boy's life leads to the man's.

WOMAN'S RIGHT TO VOTE.—Some of the reasons why woman should not be hindered from voting are:

Her right to vote is as certain and perfect as man's. She is, obviously, equal to man, and essentially one with him. Her rights, which, in common with his, are under the control of the ballot-box, are as sacred as his, and are as important to her as are his to him. As well might woman undertake to keep man from the ballot-box, as man be guilty of keeping her from it. Infinite shame to man is it that woman is kept from it!—and this, too, by brute force! Woman is fast coming to feel this oppression; and, in proportion to her feeling it, is her sense of the worth and nobleness of man reduced. Nothing on earth is more important than that the sexes should bear themselves toward each other so justly, generously and lovingly as to inspire the fullest mutual confidence and to command from each other the highest honor. Woman should have no occasion to feel that man deals unfairly by her—least of all, that the unfairness is one which, as in the case of her exclusion from voting, is enforced by his superior physical powers.—*Gerritt Smith.*

HEIGHT OF MAN.—Dr. Gould, who examined a large number of students in the junior and senior classes at Harvard University and Yale College, together with some members of the professional schools, reports their average height 5,666 feet, and average weight 139,700 pounds. A. Maclaren, who has the charge of the gymnasium connected with the Oxford University, England, reports of the first one hundred names on his book, as they arrived at the University, their average height 5,825 feet, and average weight 132,980 pounds.

From the vital statistics of all the members of Amherst College from 1861 to 1860—making over 600 students—their average weight was found to be 139,485 pounds, and average height 5,651 feet.—*Dr. Nathan Allen.*

YOU may gather a rich harvest of knowledge by reading; but thought is the winnowing machine.

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OUR STUDIES IN PHYSIOLOGY.

THIRD STUDY.

8. THE heart, to which all the vessels in the body have now been directly or indirectly traced, is an organ, the size of which is usually roughly estimated as equal to that of the closed fist of the person to whom it belongs, and which has a broad end turned upward and backward, and rather to the right side, called its base; and a pointed end which is called its apex, turned downward and forward, and to the left side, so as to lie opposite the interval between the fifth and sixth ribs.

It is lodged between the lungs, nearer the front than the back wall of the chest, and is inclosed in a double bag—the pericardium. One-half of the double bag is closely adherent to the heart itself, forming a thin coat upon its outer surface. At the base of the heart, this half of the bag passes on to the great vessels which spring from or open into that organ; and becomes continuous with the other half, which loosely envelops the heart and the adherent half of the bag. Between the two layers of the pericardium there is a completely closed, narrow cavity, lined by an epithelium, and secreting into its interior a small quantity of clear fluid.

THE CAVITIES OF THE HEART.

Inside, the heart contains two great cavities, or divisions, as they have been termed above, completely separated by a fixed partition which extends from the base to the apex of the heart; and, consequently, having no direct communication with one another. Each of these two great cavities is further subdivided, not longitudinally, but transversely, by a movable partition. The cavity above the transverse partition, on each side, is called the auricle; the cavity below, the ventricle—right or left as the case may be.

Each of the four cavities has the same capacity, and is capable of containing from four to six cubic inches of water. The walls of the auricles are much thinner than those of the ventricles. The wall of the left ventricle is much thicker than that of the right ventricle; but no such difference is perceptible between the two auricles.

9. The ventricles have more work to do than the auricles, and the left ventricle more to do than the right. Hence the ventricles have more muscular substance than the auricles, and the left ventricle than the right; and it is this excess of muscular substance which gives rise to the excess of thickness observed in the left ventricle.

10. There are three partitions attached to the circumference of the right auriculo-ventricular aperture, and two to that of the left. Each is a broad, thin, but very tough and strong triangular fold of the endocardium, attached by its base, which joins on to its fellow, to the auriculo-ventricular fibrous ring; and hanging with its point downward into the ventricular cavity. On the right side there are, therefore, three of these broad, pointed membranes, whence the whole apparatus is called the tricuspid valve. On the left side there are but two, which, when detached from all their connections but the auriculo-ventricular ring, look something like a bishop's miter, and hence bear the name of the mitral valve.

The edges and apices of the valves are not completely free and loose. On the contrary, a number of fine, but strong, tendinous cords, called chordæ tendineæ, connect them with some column-like elevations of the fleshy substance of the walls of the ventricle, which are termed columnæ carneæ.

It follows, from this arrangement, that the valves oppose no obstacle to the passage of fluid from the auricles to the ventricles; but if any should be forced the other way, it will at once get between the valve and the wall of the heart, and drive the valve backward and upward. Partly because they soon meet in the middle and oppose one another's action, and partly because the chordæ tendineæ hold their edges and prevent them from going back too far, the valves, thus forced back, give rise to the formation of a complete transverse partition between the ventricle and the auricle, through which no fluid can pass.

Where the aorta opens into the left ventricle and where the pulmonary artery opens into the right ventricle, another valvular apparatus is placed, consisting in each case of three pouch-like valves called the semilunar valves, which are similar to those of the veins. But as they are placed on the same level and meet in the middle line, they completely stop the passage when any fluid is forced along the artery toward the heart. On the other hand, these valves flap back and allow any fluid to pass

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from the head into the artery, with the utmost readiness.

Thus the arrangement of the auriculo-ventricular valves is such, that any fluid contained in the chambers of the heart can be made to pass through the auriculo-ventricular apertures in only one direction; that is to say, from the auricles to the ventricles. On the other hand, the arrangements of the semilunar valves is such that the fluid contents of the ventricles pass easily into the aorta and pulmonary artery, while none can be made to travel the other way from the arterial trunks to the ventricles.

11. Like all other muscular tissues, the substance of the heart is contractile; but, unlike most muscles, the heart contains within itself a something which causes its different parts to contract in a definite succession and at regular intervals.

If the heart of a living animal be removed from the body, it will go on pulsating for a longer or shorter time, much as it did while in the body. And careful attention to these pulsations will show that they consist of: (1) A simultaneous contraction of the walls of both auricles. (2) Immediately following this, a simultaneous contraction of the walls of both ventricles. (3) Then comes a pause, or state of rest; after which the auricles and ventricles contract again in the same order as before, and their contractions are followed by the same pause as before.

The state of contraction of the ventricle or auricle is called its systole—the state of relaxation, during which it undergoes dilatation, its diastole.

It will now be easy to comprehend what must happen if, when the whole apparatus is full of blood, the first step in the pulsation of the heart occurs and the auricles contract.

THE CONTRACTION OF THE AURICLES.

12. By this action each auricle tends to squeeze the fluid which it contains out of itself in two directions—the one toward the great veins, the other toward the ventricles; and the direction which the blood, as a whole, will take, will depend upon the relative resistance offered to it in these two directions. Toward the great veins it is resisted by the mass of the blood contained in the veins. Toward the ventricles, on the contrary, there is no resistance worth mentioning, inasmuch as the valves are open, the walls of the ventricles, in their uncontracted state, are flaccid and easily distended, and the entire pressure of the arterial blood is taken off by the semilunar valves which are necessarily closed.

Therefore, when the auricles contract, only a very little of the fluid which they contain will flow back into the veins, and the great proportion will pass into and distend the ventricles. As the ventricles fill and begin to resist further distension, the blood, getting behind the auriculo-ventricular valves, will push them toward one another, and almost shut them. The auricles now cease to contract, and immediately that their walls relax, fresh blood flows from the great veins and slowly distends them again.

CONTRACTION OF THE VENTRICLES.

But the moment the auricular systole is over, the ventricular systole begins. The walls of each ventricle contract vigorously, and the first effect of that contraction is to shut the auriculo-ventricular valves completely and to stop all egress toward the auricle. The pressure upon the valves becomes very considerable, and they might even be driven upward, if it were not for the chordæ tendineæ which hold down their edges.

As the contraction continues and the capacities of the ventricles become diminished, the points of the wall of the heart to which the chordæ tendineæ are attached approach the edges of the valves; and thus there is a tendency to allow of a slackening of these cords, which, if it really took place, might permit the edges of the valves to flap back and so destroy their utility. This tendency, however, is counteracted by the chordæ tendineæ being connected, not directly to the walls of the heart, but to those muscular pillars, the columnæ carneæ, which stand out from its substance. These muscular pillars shorten at the same time as the substance of the heart contracts; and thus, just so far as the contraction of the ventricles brings the columnæ carneæ nearer the valves, do they, by their own contraction, pull the chordæ tendineæ as tight as before.

By the means which have now been described the fluid in the ventricle is debarred from passing back into the auricle; the whole force of the contraction of the ventricular walls is therefore expended in overcoming the resistance presented by the semilunar valves. This resistance has several sources, being the result, partly, of the weight of the vertical column of blood which the valves support; partly, of the reaction of the distented elastic walls of the great arteries, and partly of the friction and inertia of the blood contained in the vessels.

It now becomes obvious why the ventricles

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have so much more to do than the auricles, and why valves are needed between the auricles and ventricles, while none are wanted between the auricles and the veins.

WORK THE AURICLES DO.

All that the auricles have to do is to fill the ventricles, which offer no active resistance to that process. Hence, the thinness of the walls of the auricles, and hence the needlessness of any auriculo-venous valve, the resistance on the side of the ventricle being so insignificant that it gives way at once before the pressure of the blood in the veins.

WORK THE VENTRICLES DO.

On the other hand, the ventricles have to overcome a great resistance in order to force fluid into elastic tubes which are already full; and if there were no auriculo-ventricular valves, the fluid in the ventricles would meet with less obstacle in pushing its way backward into the auricles and thence into the veins, than in separating the semilunar valves. Hence the necessity, firstly, of the auriculo-ventricular valves; and, secondly, of the thickness and strength of the walls of the ventricles. And since the aorta, systemic arteries, capillaries, and veins form a much larger system of tubes, containing more fluid and offering more resistance than the pulmonary arteries, capillaries, and veins, it follows that the left ventricle needs a thicker muscular wall than the right.

13. Thus, at every systole of the auricles, the ventricles are filled and the auricles emptied, the latter being slowly refilled by the pressure of the fluid in the great veins, which is amply sufficient to overcome the passive resistance of their relaxed walls. And at every systole of the ventricles, the arterial systems of the body and lungs receive the contents of these ventricles, and the nearly emptied ventricles remain ready to be refilled by the auricles.

WHAT HAPPENS IN THE ARTERIES.

We must now consider what happens in the arteries. When the contents of the ventricles are suddenly forced into these tubes (which, it must be recollected, are already full), a shock is given to the entire mass of fluid which they contain. This shock is propagated almost instantaneously throughout the fluid, becoming fainter and fainter in proportion to the increase of the mass of the blood in the capillaries, until it finally ceases to be discernible.

If the vessels were tubes of a rigid material, like gas-pipes, the fluid which the arteries contain would be transported forward as far as this impulse was competent to carry it, at the same instant as the shock, throughout their whole extent. And, as the arteries open into the capillaries, the capillaries into the veins, and these into the heart, a quantity of fluid exactly equal to that driven out of the ventricles would be returned to the auricles, almost at the same moment that the ventricles contract.

However, the vessels are not rigid, but, on the contrary, very yielding tubes; and the great arteries, as we have seen, have especially elastic walls. What happens, then, when the ventricular systole takes place is—firstly, the production of the general and sudden slight shock already mentioned; and, secondly, the dilatation of the great arteries by the pressure of the increased quantity of blood forced into them.

But, when the systole is over, the force stored up in the dilated arterial walls, in the shape of elastic tension, comes into play and exerts a pressure on the fluid—the first effect of which is to shut the semilunar valves; the second, to drive the fluid from the larger arteries along the smaller ones. These it dilates in the same fashion. The fluid then passing into the capillaries, the ejection of a corresponding quantity of fluid from them into the veins, and finally from the veins into the heart, is the ultimate result of the ventricular systole.

THE SOUNDS OF THE HEART.

14. If the ear be applied over the heart certain sounds are heard, which recur, with great regularity at intervals corresponding with those between every two beats. First comes a longish dull sound; then a short sharp sound; then a pause; then the long, then the sharp sound, then another pause; and so on. There are many different opinions as to the cause of the first sound, and perhaps physiologists are not yet at the bottom of the matter; but the second sound is, without doubt, caused by the sudden closure of the semilunar valves when the ventricular systole ends. That such is the case has been proved experimentally, by hooking back the semilunar valves in a living animal, when the second sound ceases at once.

THE PULSE.

15. If the finger be placed upon an artery, such as that at the wrist, what is termed the pulse will be felt; that is to say, the elastic artery dilates somewhat, at regular intervals, which answer to the beatings of the heart. The pulse which is felt by the finger, however, does not correspond precisely with the beat of the heart,

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but takes place a little after it, and the interval is longer the greater the distance of the artery from the heart. The beat in the artery on the inner side of the ankle, for example, is a little later than the beat of the artery in the temple.

The reason for this is that the sense of touch by finger is only delicate enough to distinguish the dilatation of the artery by the wave of blood which is driven along it by the elastic reaction of the aorta, and is not competent to perceive the first shock caused by the systole. But if, instead of the fingers, very delicate levers be made to rest upon any two arteries, it will be found that the pulse really begins at the same time in both, the shock of the systole making itself felt all over the vascular system at once; and that it is only the actual fluid, which is propelled into the two arteries by the elastic reaction of the greater vessels, which takes longer to reach and distend the more distant branch.

A CUT ARTERY.

16. When an artery is cut, the outflow of the fluid which it contains is increased by jerks, the intervals of which correspond with the intervals of the beats of the heart. The cause of this is plainly the same as that of the pulse; the force which would be employed in distending the walls of the artery, were the latter entire, is spent in jerking the fluid out when the artery is cut.

WHY THE VEINS ARE PULSELESS.

17. Under ordinary circumstances, the pulse is no longer to be detected in the capillaries, or in the veins. This arises from several circumstances. One of them is that the capacity of the branches of an artery is greater than the capacity of its trunk, and the capacity of the capillaries, as a whole, is greater than that of all the small arteries put together. Hence, supposing the capacity of the trunk to be ten, that of its branches fifty, and that of the capillaries into which these open one hundred, it is clear that a quantity of fluid thrown into the trunk, sufficient to dilate it by one-tenth, and to produce a very considerable and obvious effect, could not distend each branch by more than one-fiftieth, and each capillary by one-hundredth of its volume, an effect which might be quite imperceptible.

18. Again, the flow of the fluid is retarded by the subdivision of the tubes which contain it; and the multitude of minute impulses into which the primary blow of the systole is subdivided in the small vessels, become lost among these obstacles and fused into one general and steady pressure. This loss of the distinct effect of the heart's action may be likened to the result of pumping into a horse-trough. Where the water flows into the trough, the splashes and waves, caused by the intermitting fall of water from the pump, are very obvious; but the water will flow steadily and evenly from a tap, open at the other end of the trough.

RESISTANCE OF THE CAPILLARIES.

19. Finally, in consequence of the resistance to its passage, resulting from the extremely minute size and subdivision of the capillaries, the fluid, to a certain extent, accumulates in the arteries, and keeps their walls in a constant state of distension, which is maintained by each successive beat of the heart. In other words, one beat follows another before the effect of the first has ceased.

As the effect of each systole becomes diminished in the smaller vessels by the cause above mentioned, that of this constant pressure becomes more obvious, and gives rise to a steady passage of the fluid from the arteries toward the veins. In this way, in fact, the arteries perform the same functions as the air reservoir of a fire-engine, which converts the jerking impulse given by the pumps into the steady flow of the delivery hose.

THE VENA PORTÆ.

20. But the blood brought to the capillaries of the stomach and intestines, spleen and pancreas, is gathered into veins which unite into a single trunk—the vena portæ. The vena portæ distributes its blood to the liver, mingling with that supplied to the capillaries of the same organ by the hepatic artery. From these capillaries it is conveyed by small veins, which unite into a large trunk—the hepatic vein, which opens into the inferior vena cava. The flow of the blood from the abdominal viscera, through the liver, to the hepatic vein is called the portal circulation.

THE CORONARY ARTERIES.

The heart itself is supplied with blood by the two coronary arteries which spring from the root of the aorta just above two of the semilunar valves. The blood from the capillaries of the heart is carried back by the coronary vein, not to either vena cava, but to the right auricle. The opening of the coronary vein is protected by a valve, so as to prevent the right auricle from driving the venous blood which it contains back into the vessels of the heart.

21. Thus the shortest possible course which any particles of the blood can take in order to pass from one side of the heart to the other, is to

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leave the aorta by one of the coronary arteries, and return to the right auricle of the coronary vein. And in order to pass through the greatest possible number of capillaries and return to the point from which it started, a particle of blood must leave the heart by the aorta and traverse the arteries which supply the alimentary canal, spleen, and pancreas. It then enters, firstly, the capillaries of these organs; secondly, the capillaries of the liver; and, thirdly, after passing through the right side of the heart, the capillaries of the lungs, from which it returns to the left side and eventually to the aorta.

INFLUENCE OF THE NERVES ON THE CIRCULATION.

22. It has been shown above that the small arteries and veins may be directly affected by the nervous system, which controls the state of contraction of their muscular walls, and so regulates their caliber. The effect of this power of the nervous system is to give it a certain control over the circulation in particular spots, and to produce such a state of affairs that, although the heart and the general condition of the vessels remain the same, the state of the circulation may be very different in different localities.

BLUSHING.

Blushing is a purely local modification of the circulation of this kind, and it will be instructive to consider how a blush is brought about. An emotion—sometimes pleasurable, sometimes painful—takes possession of the mind; thereupon a hot flush is felt, the skin grows red, and according to the intensity of the emotion these changes are confined to the cheeks only, or extend to the roots of the hair, or all over.

What is the cause of these changes? The blood is a red and a hot fluid; the skin reddens and grows hot, because the vessels contain an increased quantity of this red and hot fluid; and its vessels contain more, because the small arteries suddenly dilate, the natural moderate contraction of their muscles being superseded by a state of relaxation. In other words, the action of the nerves which cause this muscular contraction is suspended.

A PALE SKIN.

On the other hand, in many people, extreme terror causes the skin to grow cold, and the face to appear pale and pinched. Under these circumstances, in fact, the supply of blood to the skin is greatly diminished, in consequence of an excessive stimulation of the nerves of the small arteries, which causes them to contract and so to cut off the supply of blood more or less completely.

MAKING ANIMALS BLUSH.

23. That this is the real state of the case may be proved experimentally upon rabbits. These animals, it is true, do not blush naturally, but they may be made to blush artificially. If, in a rabbit, the sympathetic nerve which sends branches to the vessels of the head is cut, the ear of the rabbit, which is covered by so delicate an integument that the changes in its vessels can be readily perceived, at once blushes. That is to say, the vessels dilate, fill with blood, and the ear becomes red and hot. The reason of this is, that when the sympathetic is cut, the nervous stimulus which is ordinarily sent along its branches is interrupted, and the muscles of the small vessels, which were slightly contracted, become altogether relaxed.

And now it is quite possible to produce pallor and cold in the rabbit's ear. To do this it is only necessary to irritate the cut end of the sympathetic which remains connected with the vessels. The nerve then becomes excited, so that the muscular fibers of the vessels are thrown into a violent state of contraction, which diminishes their caliber so much that the blood can hardly make its way through them. Consequently, the ear becomes pale and cold.

24. The practical importance of this local control exerted by the nervous system is immense. When exposure to cold gives a man catarrh, or inflammation of the lungs, or diarrhea, or some still more serious affection of the abdominal viscera, the disease is brought about through the nervous system. The impression made by the cold on the skin is conveyed to the nervous centers, and so influences the vaso-motar nerves (as the nerves which govern the walls of the vessels are called) of the organ affected as to cause their partial paralysis, and produce that state of congestion (or undue distension of the vessels) which so commonly ends in inflammation.

25. Is the heart, in like manner, under the control of the central nervous system?

As we all know, it is not under the direct influence of the will, but every one is no less familiar with the fact that the actions of the heart are wonderfully affected by all forms of emotion. Men and women often faint, and have sometimes been killed by sudden and violent joy and sorrow; and when they faint or die in this way, they do so because the perturbation of the brain gives rise to a something which arrests the heart as dead as you stop a stop-

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watch with a spring. On the other hand, other emotions cause that extreme rapidity and violence of action which we call palpitation.

ARREST OF THE HEART'S ACTION.

It is quite certain that the influence which arrests the heart's action is supplied by the pneumogastric. This may be demonstrated in animals, such as frogs, with great ease.

26. If a frog be pithed, or its brain destroyed, so as to obliterate all sensibility, the animal will continue to live, and its circulation will go on perfectly well for an indefinite period. The body may be laid open without causing pain or other disturbance, and then the heart will be observed beating with great regularity. It is possible to make the heart move a long index backward and forward, like the inverted pendulum which musicians term a mentronome; and if frog and index are covered with a glass shade, the air under which is kept moist, the index will vibrate with great steadiness for a couple of days.

It is easy to adjust to a frog thus prepared a contrivance by which electrical shocks may be sent through the pneumogastric nerves, so as to irritate them. The moment this is done the index stops dead, and the heart will be found quiescent, with relaxed and distended walls. After a little time the influence of the pneumogastric passes off, the heart recommences its work as vigorously as before, and the index vibrates through the same arc as formerly. With careful management, this experiment may be repeated very many times; and after every arrest by the irritation of the pneumogastric, the heart resumes its work.

EVIDENCE THAT THE BLOOD CIRCULATES.

27. The evidence that the blood circulates in man, although perfectly conclusive, is almost all indirect. But certain of the lower animals, the whole or parts of the body of which are transparent, readily afford direct proof of the circulation, the blood visibly rushing from the arteries into the capillaries, and from the capillaries into the veins, so long as the animal is alive and its heart is at work. The animal in which the circulation can be most conveniently observed is the frog. The web between its toes is very transparent, and the particles suspended in its blood are so large that they can be readily seen as they slip swiftly along with the stream of blood, when the toes are fastened out, and the intervening web is examined under even a low magnifying power.

NOTE.—Our Studies in Physiology are condensed from Prof. T. H. Huxley's English works, not published here.

DECLINING YEARS.—We say "declining years;" but, if Heaven be our true center, the decline of our twofold being is contemporaneous with its ascent. Soul and body are in almost perpetual contradiction. In the falling of nature, it is not merely destruction which is hastening on, but liberty and glory—the perfection of a soul which grows ever more radiant as the spiritual principle absorbs all others. As the body sinks into decrepitude, the soul is tempered; and by the simultaneous acceleration of these two processes, the frame returns to dust and the spirit to heaven. Death for the one is immortal youth for the other. David was old when he called upon the God of his youth; but it was not the God of his past whom he invoked, any more than the God of Jacob is God of the dead. It was the God of the present to whom David appealed—the God of that youth which felt flourishing and blossoming in the depths of his being. For if the children of light enjoy day in the midst of night, the children of immortality keep their youth amid the snows of age.—*Ex.*

WHAT MUSIC DOES TO MAN.—What music does to you, depends upon what you are yourself—how musical your life has been, how simple and pure, and free from vulgarity and baseness. No circumstances are so gross, no neighbors are so cold as entirely to prevent the workings of association. Bayard Taylor tells a story that was repeated to him by Dr. Kane. That voyager one day noticed that the men of his crew were clustered together in the forecastle around one of their number who was reading something aloud. Approaching, he saw the tears coursing down those cheeks shaggy with the Arctic winter. Coming still nearer he heard the words of Tennyson's song—

"Break, break, break,
On thy cold gray stones, O Sea."

—*John Weiss.*

AN invalid son of Bacchus was about to undergo an operation for dropsy at the hands of his physicians. "O father, father screamed a son of the patient, who was looking on, "do any thing else, but don't let them tap you." "But, Sammy," said the father, "it will do me good, and I shall live many a year after to make you happy." "No, father, you won't. There was never any thing tapped in our house that lasted longer than a week."

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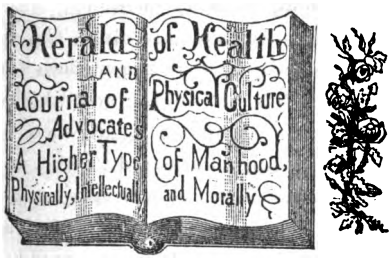
EDITORIAL DEPARTMENT.



NEW YORK, MARCH, 1870.

WATER.

"To the days of the aged it addeth length;
To the might of the strong it addeth strength;
It freshens the heart, it brightens the sight;
'Tis like quaffing a goblet of morning light."

☞ THE PUBLISHERS *do not hold themselves as indorsing every article which may appear in* THE HERALD. *They will allow the largest liberty of expression, believing that by so doing this magazine will prove to be more useful and acceptable to its patrons.*

☞ *Exchanges are at liberty to copy from this magazine by giving due credit to* THE HERALD OF HEALTH AND JOURNAL OF PHYSICAL CULTURE.

TOPICS OF THE MONTH.

BY M. L. HOLBROOK, M. D., EDITOR.

PROGRESS IN MICHIGAN UNIVERSITY.—The peculiar and deep interest which all our citizens feel in the University whose name we have placed at the head of this article, is derived from the fact that, while it is the largest institution of the kind on the American continent, it is also the one which is the most democratic, and feels the most immediately every pulsation of the popular will. Its eight Regents are chosen by direct vote of the people of Michigan. It is as purely a representative organization as is the State Legislature. The other great literary establishments of the country, like Harvard, Yale, and Princeton, are close corporations. Their boards of management are continued by a process of official reproduction within themselves. Their endowments—which are the sinews of culture as well as of war—are accumulations chiefly of private benevolence. In many very important senses they are independent of the people; they can defy legislatures, political cliques, and even public opinion. We do not mean that they can defy public opinion permanently, but they can do it for a much longer time than can an institution whose rulers are the immediate offspring of the popular choice, and which still looks to popular favor for a needed portion of its annual income.

It is for this reason, mainly, that the mass of the people are inclined to look upon the great University of the interior as peculiarly their own. A great gulf is fixed between them and the old close corporations of learning. Whether justly or not, they are apt to feel themselves repelled by these corporations, as forming an intellectual aristocracy.

It is one of the logical results of this state of facts, that the newspapers of the country—which are but the mouth-pieces of popular thought and emotion—should be constantly referring to the great popular University, and should chronicle its doings as a part of the history of the time.

Since the opening of the new year two events have occurred at Ann Arbor, which have attracted very general comment in the public press; one of these is the emancipation of the University from the caste of sex, and the other is an elaborate report on a Department of Hygiene and Physical Culture—this report having been submitted to the Regents by our contributor, Professor Moses Coit Tyler. Both these events are tokens of progress.

With regard to the admission of women to all the University privileges—literary, legal, medical, it must be gratifying to the responsible friends of the institution to notice how almost unanimous is the approbation which that noble

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and brave decree has evoked from the most enlightened organs of opinion throughout the whole country. Had it been otherwise, had this act of simple fair-play been received by universal howls instead of universal huzzas, it would not have shaken our confidence in its rightfulness and expediency. As it is, the great University has crowned itself, not only with justice, but with praise. Instead of lowering its standing to the obscurity of certain petty "mixed colleges," as some weak souls have feared it would do, it has only raised its standing to the elevation of the illustrious Universities of Paris, Edinburg, and Zurich, and to the superb and towering hight of the Future! Gentlemen of the Board of Regents, you have done well! You have brought nearer the Golden Age! You have smitten, with valiant stroke, the foes of true Science, of true Justice, of true Civilization! You have set a benign and fruitful example! You have linked the fortunes of your University with the unconquerable might of Progress; while the stars in their courses will be fighting on your side!

It is on account of our intense sympathy with this action at the University of Michigan that we are drawn to suggest to the Regents one word of warning. They will have no difficulty in protecting their female students in the Collegiate department; for the College students who have already entered are gentlemen. They will have no difficulty in protecting their female students in the Law department, for the Law students who have already entered are gentlemen. But they will have difficulty in protecting their female students in the Medical department; for, unless the male students who shall enter the medical department next fall differ essentially from male medical students with whom we are too familiar here in New York and in Philadelphia—the word gentlemen can be applied to them only by putting a strain upon the English language which it can hardly bear.

Let us not be misunderstood. These male individuals, who become students of medicine, probably have courteous instincts and are civilized beings, in all other relations of life, except in those growing out of their professional studies; but in the prosecution of those studies they pass into a dense, penetrating, poisoned atmosphere of professional traditions, so rank, so deadly, as to destroy in all except a few superior natures, liberality of feeling, common sense, and gentlemanly sense also. The very persons who may have been gentlemen before they entered this atmosphere, and who may possibly become gentlemen again when they get out of it, will, while herded together under the intoxication of professional maxims at the medical school, so strip themselves of civility and common decency as to compel us to name them brutes—were we not restrained from applying that epithet to them by some respect for our four-footed fellow creatures. Consider the insolence, the obscene and infamous barbarity, with which refined and noble-minded ladies have been treated in medical schools of New York and Philadelphia during the past winter, by medical students and constructively by medical professors! To call these persons animals is such an unkindness to the latter as would justify the expostulations of Mr. Bergh.

Therefore, from our experience at the East, we warm our friends at the West of what they are to expect; unless by wise and bold legislation they meet the difficulty in advance. The reputation and the advantages of the medical department of Michigan University are such as will attract many female students. It would not surprise us to hear that at least twenty should go there next fall.

To be forewarned *ought* to mean to be forearmed. May it be so in this instance. A timid, drifting, procrastinating policy will not meet the case. In our Eastern colleges, the men who could check by a glance of the eye, by the lifting of a finger, all this amazing savagery on the part of the students, are the Professors! It is their silent, gratified, well-understood connivance that sustains these crowds of scientific rowdies in conduct which would disgrace a parliament of hyenas.

Concerning the report on a Department of Hygiene and Physical Culture, we have left our-

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selves no room to speak in this article. That subject must go over to the next number. Fortunately, it is one of those subjects which will keep.

OZONE AND ITS RELATION TO HUMAN HEALTH.—Dr. Draper, in his recent interesting lecture on Air and Respiration before the American Institute, spoke of ozone as possessing properties similar to oxygen, indeed a modified form of this element possessing the power of uniting with many substances at the ordinary temperatures of the air, while oxygen, as we have seen, requires the heat to be raised to the point of ignition. Its presence is determined by its action upon paper that has been dipped in an aqueous solution of starch and iodide of potassium. This it turns from a white to a blue or brown color, according as it is more or less concentrated. Owing to its active oxidizing power, ozone is a valuable disinfectant, since it can decompose noxious gases and vapors, converting them into harmless bodies, and there is good reason for supposing that the purity of the air after a thunder storm is in part owing to the conversion of a portion of its oxygen into ozone, and the consequent removal of the offensive ingredients.

It has been stated that some epidemics, of which cholera is an example, reach their point of greatest malignancy when ozone has disappeared from the air, and that the decline of the epidemic and its disappearance are marked by the reappearance of ozone. In rural districts it is nearly always present, while in the interior of large cities it is almost as uniformly absent, owing to the fact that it has been consumed in destroying the emanations that prevail in these localities. Since ozone is very irritating to the respiratory organs, it has been suggested that the sudden appearance of diseases of the air-passages is in all probability due to the occurrence of a wind highly charged with this gas. It certainly is a plausible explanation of the manner in which inflammation will in a single night attack half the inhabitants of a locality.

It is a well-ascertained and indubitable fact that under the influence of sunlight, green plants decompose carbonic acid and set oxygen gas free. This is generally regarded as a direct action of the light, but experiments have shown that if the gas dissolved in water is carefully removed before the plant is introduced, even though carbonic acid is supplied in sufficient quantity, the plant can not decompose it in the light until the water is again charged with air. There is, therefore, some probability that the decomposition of carbonic acid by plants is not a direct but an indirect action, accomplished through the agency of ozone. Whether this is true or not, it at least affords a highly interesting and instructive field of inquiry that promises a rich reward to those who elect to reap therein.

INSANITY.—This growing, terrible calamity is and must be a source of anxiety to every well-wisher of his kind, and we are glad to reproduce the humane suggestions of Governor Hoffman upon this subject:

"I earnestly call your attention to the necessity of additional legislation for the benefit of the insane poor throughout the State. Their condition in the county poorhouses is deplorable. None are so helpless; none, for the most part, so friendless. They are often abandoned by their relatives, who, whatever their inclination, have not the means of giving them the care they need. No provision suitable to their condition and their wants can be made on a small scale. They require, generally, the discipline and the treatment which can be had only in large, well-organized institutions, under the charge of men who have made this painful form of disease a special duty. It is impracticable for each county to provide properly for the few sufferers of this class who are found within its limits. Their presence in the county poorhouses is, from the inadequate care that can there be bestowed upon them, and from the cruel restraint which is often of necessity resorted to, demoralizing to the neighborhood. Interest, duty, and charity demand that further provision be made at once for this unfortunate

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class. The State should provide asylums, with room for the poor thus afflicted who can not be taken care of otherwise."

This is well and kindly said, but the evil will increase upon the public, till men are trained to more rational views of life, its end and aims; till they learn the best method of preserving health, and better understand and practice the immutable laws of truth which underlie all our moral and social obligations. There is no wrong committed which does not involve its penalty, and this penalty, if confined to the wrong-doer himself, might be only a wholesome retribution, but it is apt to descend in a widening circle bringing poverty, insanity, and death upon the innocent and helpless progeny.

THE LABORING FORCE OF THE HEART.—A physiologist (S. Haughton), has recently made a calculation concerning the laboring force of the human heart, which contains several interesting statements. He assumes—what can not be very far from the truth—that at each pulsation of this organ three ounces of blood are propelled from each ventricle; that the hydrostatic pressure against which the blood is forced from the left ventricle, is equal to a column of blood nine and nine-tenth feet high. Hence, each beat requires force enough to send three ounces of blood to this hight. Allowing seventy-five beats for each minute, the number of pulsations in one day would be 107,000, and this, multiplied by three, would give 321,000 for the number of ounces pushed in one day to the hight of ten feet. Dividing this by sixteen, to reduce it to pounds, we have 20,250 pounds, ten and one-tenth tons lifted nearly ten feet high. This is but the work of the left ventricle, and our physiologist adds five-thirteenths of this quantity to it as the amount of work done by the right ventricle in forcing the blood to the lungs. Now, the amount of labor which can be accomplished by an average working man in one day of ten hours, has been pretty accurately estimated as equal to lifting to the hight of ten feet thirty-five tons, which is only about three and one-half times as much as the heart is called on to do in twenty-four hours. We would like to have the readers of THE HERALD OF HEALTH pause here for a moment and think. The heart is a muscular organ about the size of the fist of its owner. It works night and day, year in and out, for a whole lifetime. Apparently it never rests. It can lift nearly one-third as much blood in a day as its owner can lift in the same space of time, for we must remember that while the man works but ten hours and then must take rest, the heart goes on continually. A pound of heart-muscle does in each second a quarter more work than a pound of any other muscle of the body. And taking into consideration the time allotted to rest for the muscles, which the heart does not require, the difference is very much greater.

Our physiologist, however, carries his calculations still farther. He tells us that if the heart were to spend all of its energy in lifting itself up, it would in one hour reach an attitude of 19,754 feet. A man in climbing a mountain can lift himself about 1,000 feet in an hour, which is but a trifle more than one-twentieth of the hight the heart would attain in the same time.

In that very wonderful railway that crosses the Alps, the greatest hight that has been attained in an hour by any locomotive has been 2,700 feet, showing only one-seventh of the working force of the human heart. In the papers now being published in this monthly, entitled "Studies in Physiology," the structure and workings of this organ are minutely described, and we refer our readers there for details. We can not help adding, that the heart as a mechanical force far excels any thing of which we know. Its daily power is one-third as great as the power of all the muscles of the body combined. It has twenty times the force of the body expended in climbing a mountain, and eight times the force of the best steam-engine yet invented, in lifting its own weight over the Alps. With this knowledge, how important an organ does it become to us, and how necessary that it never be over-taxed or injuriously treated.

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SLEEP ALONE.—A young subaltern had occasion to visit the Duke of Wellington, surrounded as he was by all the appliances of wealth and luxury, and covered with military and civic decorations. In the midst of all this splendor he beheld a small iron camp bedstead.

"I suppose that is preserved in memory of former service," said the young man.

"By no means," replied the Duke, "I sleep every night upon it."

"I should not think a man could turn over on such a narrow bed."

"Young man," was the reply, "*when a man turns over it is time to turn out.*"

This hint from the experience of the "Iron Duke," is of great value in a hygienic point of view. We give what we consider the ideal of practice, reaching it ourselves as best we may, and leaving others to their best endeavor to do likewise; and thus we say, *no two persons ought ever to sleep together.*

The practice is neither wholesome nor handsome in a moral point of view, and in the matter of health is manifestly injurious. If the two are in high health, it is unwise to encounter the exhalations each from the other. If one is diseased, the other will surely suffer from the secretion of poisonous effluvia. If both are diseased, the poison is but intensified.

The decencies of marriage are better sustained by sleeping apart, and thus preserving the thousand and one refinements, the delicate personalities, and the exclusiveness, which go so far in retaining the sentiment of purity, modesty, and elevation so essential in a relation at once sacred, ennobling, and intimate, like that of marriage. We believe this relation would oftener prove happy than it now does, but for this baneful practice of occupying the same bed. Mrs. Oakes Smith has said that "the married ought to dream together," but it is certain that sleep and dreams often drive a couple very far apart. The physical affinities may be greatly at fault, and create disorder, when, perhaps, the mental and affectional between the parties may be constant and harmonious. It is always refined to cast all the possible experiences of the external life into the background. No one cares to be reminded that certain parties may sleep together, the very intimacy of the relation demands the greater modesty.

The stolen kiss of two lovers is not offensive to even a third party, while that of friendliness does not even create comment; the kisses of married people, on the contrary, are apt to revolt the observer as familiar and undignified. A Roman Senator stabbed another for presuming to kiss his wife in his presence, and all conjugal dalliance is, and of right should be, offensive to a looker on.

It would be an elegant arrangement to furnish our chambers with couches or lounges, of no greater width than is handsome for ordinary use, which at night, by the aid of linen, blankets, and pillows could be made all that is requisite for sleeping purposes; the coverings in this case would be more likely to be well ventilated.

We believe that much that is bad and corrupting, much that has tended to bring marriage into disrepute, may be traced to a lack of dignity not to say modesty on the part of married people, who by sleeping together as it were in public, by a lack of reserve, and an unwillingness to encounter parental responsibilities, have made that profane which God designed to be holy.

MONSTERS IN THE SCHOOL-ROOM. — An account has recently been given of a school-teacher in Manchester, Conn., who punished a little school-girl for failing to learn a lesson in geography, by compelling her to stand still on the floor seven hours without change or rest. The child, though a healthy one, as a result of this barbarism, sickened and died. The case is one too sad for thinking of without feelings of horror at so cold-blooded an act. It has not been our duty to chronicle a case of the murder of an innocent so clear and marked as this for many a day. How a school committee could call it a case of error of judgment, and nothing more, is more than we can understand. It was an act of barbarous cruelty, which resulted in murder. *Seven hours* is a long time for any human being

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to stand still in a school-room, exposed to a draft of cold air; but for a child, it is a thing impossible without most serious injury. A teacher whose heart could endure the sight must have been a monster. There is altogether too much cruelty in the school-room, which ought to be prevented by those who have children to educate. The dear little ones that do so much to soften our lives and make them tender and sweet, demand our tenderest thoughts, our most watchful care. None should be allowed to have the charge of children who can not make their lives happy, and love as well as instruct them.

LETTER FROM GEORGE TRASK.—FITCHBURG, MASS.—*To the Editor of The Herald of Health*—DEAR SIR: The following I shall soon stereotype and publish, as part of a tract. If you would previously publish it in your columns, I will thank you:

"DEAR SIR: Clergymen and others ask why I have devoted myself to the Anti-Tobacco Cause twenty years? This inquiry deserves an answer.

1. I was myself a user of tobacco. I gave it up; and as it formed an ERA in my life, like a young convert, I joyfully proclaimed it to my fellow-men.

2. My preaching was blessed of God. Many clergymen and many laymen relinquished the habit; and young men and boys, in large numbers, signed the pledge against tobacco and strong drink.

3. In the course of investigation, I soon saw that tobacco was injuring the piety of Church members, rendering some irritable and others stupid, and tending to destroy all aspirations for sanctification and the 'higher life.'

4. I became convinced that tobacco is an IDOL, assuming the place of God—as really an idol as Baal or Juggernaut, and that our young men, while worshiping it, can no more be saved than while worshiping God and mammon.

5. In looking over churches I saw that backsliders were tobacco-users, and I came to the conclusion that tobacco had much to do with their apostacy. This is confirmed by mournful facts.

6. On farther investigation I found that many devotees of tobacco are in a narcotized or abnormal state. Their moral sensibilities are not only stupefied, but the glorious attribute of free will is paralyzed, and their power to choose good well-nigh destroyed.

7. I found that when men relinquished tobacco it paved the way to relinquish other destructive habits, and this to a resurrection of the whole moral man, and this to a determination to be right with God and to 'lay hold on eternal life.'

8. Conferring with missionaries in this and other lands, I found the evil as broad as the world; that the Chinese and Turks are intoxicated and narcotized not only by opium, but by tobacco, and while in this state their conversion is about as hopeful as that of dead men in the catacombs of Rome.

These are my reasons for sacrificing myself to this *despised cause*. Other men may denounce the habit as *filthy*, *expensive*, and *unhealthy*. I take higher ground. I maintain that it mars the image of God in good men, hinders the conversion of sinners about us, and the conversion of the world.

Great obstacles obstruct the Gospel. I am doing what I can to invoke attention to a mighty one, and to prepare the way of the Lord. My cause is unpopular—I am unpopular; but somebody must do unpopular work, or it will never be done.

Yours truly, GEORGE TRASK."

DANGER OF STIMULATION.—The advocates of total abstinence except for medicine ought to know that in all chronic diseases, especially of a nervous character, the invalid is much more certain to be injured by alcoholic medication than where the disease is acute. In the former case the patient takes kindly to stimulants, but in the latter he almost always rebels against it. The pain and nervous depression which nervous invalids periodically suffer, should be overcome by building up the physical pow-

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ers permanently, and not by the stupefaction of large doses of brandy. Some physicians think alcoholic stimulants can be safely given to children who are not self-conscious, and to old people who have led temperate lives, but that it should never be given to adults of middle age. The effect, however, is the same in either case, except in degree. The true course is to reject it altogether.

LETTER FROM A SUBSCRIBER OF 21 YEARS STANDING.—"*To the Editor of The Herald of Health*—SIR: In 1848 I was given up by two doctors as incurable, in the last stages of consumption. I had a severe cough and night sweats, and the doctors told me I could not live but a short time; and I believed them, and I made my will and arranged my business, and was patiently waiting God's time to depart and leave this world of affliction; and just at this time there was a book peddler came along, who had Joel Shew's Water-Cure Manual. I bought it, and I subscribed for The Water-Cure Journal. I read the Water-Cure Manual, and practiced the doctrine as well as I could, with my wife's help; and in January, 1849, I got The Water-Cure Journal, and I read it and continued to practice the doctrine taught therein; and I grew better, and by the May following I was well, and got Dr. Shew's Family Physician and The Hydropathic Encyclopædia, and I practiced the principles as taught in those works, with the Water-Cure Journal, which I have continued till it changed its name to THE HERALD OF HEALTH; and now what opinion do you think I have formed by studying these books, and reading your paper, in connection with God's word, not having been confined to my bed by sickness one day since 1840? Sirs, it is just this: If we live in obedience to God's laws, physical and moral, we will be physically and morally healthy; whatsoever we do, we are commanded to do all to the glory of God. Now if any doubt my position, just let him try it; let him glorify God in every thing he does, and if he is not healthy I think he will get healthy, if he is not too far gone by his violations of physical law. Permit me here to ask one question: How can we view God a just being, if we live in strict obedience to his laws, and by so doing glorify him in our spirits and bodies, which are his, and he afflicts us from the cradle to the grave? Until I get an answer to this question I shall think, if we live as God wants us to live we will be healthy. I have been getting stronger in this belief for many years. I am now in my seventieth year, and I doubt whether there is a healthier man, of my age, in the great State of Ohio. We are commanded to cleanse ourselves from all filthiness of the flesh and spirit, perfecting holiness in the fear of God. I often ask professors of religion, when I see them smoking a nasty, filthy pipe, or chewing the nasty, filthy weed, how they can do that to the glory of God, and they have all, to a man, failed to answer. Permit me to ask one question more before I close: If we are born with good constitutions, and raised as God intends we should be, and then when we become accountable we obey God, temporally and spiritually, that is, do just God's will, why won't we be healthy? and if not, whose fault is it?

You can do as you please with this. If any of your readers can show me that my position is not correct, I would like them to do so; it is for instruction I write.

Yours truly, A. MOREHOUSE."

SUPPLY OF WATER IN ANCIENT ROME.—In old Rome there were nine acqueducts to supply the city with water, and the amount furnished for each inhabitant could hardly have been less than three hundred gallons for each person daily, or more than six times as much as is supplied to each person in London at the present time. One of their acqueducts was fifty-four miles long, and one forty-two miles long. No modern city ever had such perfect arrangements for baths and perfect cleanliness as Rome.

The Roman sewers for carrying off the filth of the city were also most perfect. The main one, the cloaca maxima, had a series of small channels flowing into it from all parts of the city, and rendering her drainage most complete.

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How to Treat the Sick.

FEEDING OF INFANTS.*—If the "maternal fountains" prove permanently inadequate, how shall we supply the deficiency, by spoon or bottle? If by the latter method, we have the difficulty of keeping clean, and the danger of breaking to substract from the convenience of laying baby and bottle aside, and leaving the attendant free. If we use cup and spoon, then an intelligent person is needed to feed slowly, and with care, lest the little one eat too fast and too much. Sipping from the spoon, they early learn to take from the cup slowly, and thus the great trial of weaning from the bottle is avoided. Some learn to feed much more easily than others, so the taste of the baby, and the convenience of the family, must help to decide this important point.

The wind colic, supposed to be induced by air "sucked in with the spoon," is owing rather to gas generated by indigestion.

Food improperly prepared, or given too frequently, or too much at a time, will disturb the stomach of these sensitive ones.

A common bottle, with a sponge of very fine grain for cork, makes a good baby-bottle, easily kept clean, but requires a hand to hold it, while one with a long rubber tube can be laid in the crib beside the baby.

Next, what shall we give those unfortunate little ones whose mothers are inadequate to their wants?

About wet-nurses we have nothing good to say, because so few good women serve in that capacity.

If we had a woman with a good body and a good spirit ready to serve thus, we might consider the matter favorably, but not otherwise.

On the trials of mothers and babies, when both are at the mercy of a bad woman, we will not dwell. We prefer to trust our babies to a good cow rather than a bad woman. The first is not hard to find and will usually serve the purpose, if intelligence, love, and leisure combine in the care of the child. I know many are afraid of cow's milk, because babies do not thrive in Foundling Hospitals and Orphan Asylums. To my mind they do not die so often for want of breast milk, nor for the milk of human kindness, as for lack of human love. There is a life-element which little ones draw from the eye, the arms, the heart of a real motherly woman, whether she is their own mother or not, which helps them to thrive. Without this they are half dead while they yet live, as you can see by their sad, soul-starved faces.

An intelligent, healthy, happy mother makes a paradise for infants, and the farther they drift from those belongings the nearer they come to purgatory for this world; so near, that the dear Lord lets many of them through to the better land.

But suppose they are not born to this blessed estate, what next? Get a good new milch cow (if the calf is near the age of the baby all the better). Avoid mixing or changing milk. Commence with one part milk to three parts water, for a week or two, gradually increasing the proportions of milk as the stomach will bear. If the baby looks blue and seems hungry too frequently, increase the quantity of milk. A small amount of white sugar, so small as to be merely perceptible to the taste, should be added.

If the bowels are torpid, use brown sugar, or, if necessary, molasses occasionally. If much of the latter is used, acidity of the stomach is likely to be the result. Should this not suffice, graham gruel may be used made thus: One tablespoonful of graham flour, wet with cold water and poured into one pint of boiling water. Boil twenty minutes, and stir while cooking. Add one pint of milk, but do not let it boil unless the

* Extracted from Mrs. Dr. Gleason's new book, entitled "Talks to My Patients," now in press of Wood & Holbrook, 15 Laight Street, New York.

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child has diarrhea. This keeps the bowels in a good condition, and the unbolted wheat supplies the bone and muscle-making material so important for delicate children.

TREATMENT OF CHRONIC INFLAMMATION OF THE STOMACH.—Take a sweat once a week at 10 o'clock, either by vapor or hot sitz bath, followed with cool sponging or spray, and rub dry. Foment stomach and bowels two or three times a week, at 10 A. M., or at bed-time, by wringing flannel cloths out of hot water, and apply, repeating every four minutes for the space of half an hour; it should be as hot as can be borne, then follow with cool linen compress for an hour, sponge off and rub dry. Take a cool sponge bath in the morning or dry hand-friction whichever may seem agreeable; when feverish, take a wet-sheet pack.

Drink, on rising and at bed-time, from half a pint to a pint of hot water, to dilute the acrid accumulation and induce absorption; take a hot foot bath at bed-time, if needed to keep the feet warm; wear a wet girdle every night and day-time, if it does not chill, change it three times daily. As the patient improves omit fomentations and substitute cool sitz baths for ten minutes, twice a week.

These baths must be regulated according to the strength and reactionary power of the patient.

For costiveness, use tepid-water enemas once a day in the morning.

In cases of diarrhea, use enemas of small quantities of cold water after each dejection, to be retained.

Never use cold water when it chills, nor hot water in the fever; the patient's feelings must be consulted and not forced into a bath when it is repugnant; better omit a bath than do harm. The object is to equalize the circulation and assist nature to throw off waste matter. Do not take a bath soon after eating.

When there is a severe cough, foment the chest at bed-time, and apply a cold wet compress through the night, keep the feet warm; if necessary, use jugs of hot water. Care and business should be laid aside, and every thing that is annoying. A good Water-Cure is the best place, not only to get away from cares, but to have the advantages for treatment afforded by the institution.

REGIMEN.

The most important point in the management of chronic gastritis, is to regulate the patient's diet. While the most urgent inflammatory symptoms are present, give little else than gum-arabic water, rice water, barley water, or arrow root, and as there is improvement, use toast, gruel, graham mush, and sago, baked apples, potatoe, and sub-acid fruits; for bread, graham biscuits and dry graham rolls and crackers; as the inflammation subsides, the food should be rather dry and well chewed to call out the saliva. In extreme and obstinate acidity of the stomach, dry brown toast should be used alone for a few days. Sometimes graham bread and mush seem to sour sooner than other articles, and then it would be better to use fine-flour unleavened bread for a time, and sometimes a little beefsteak broiled will set better; in such cases, it might be used. I find that beef will not ferment as soon as many other kinds of food. It requires a great deal of skill and perseverance to manage an inflamed or congested stomach, and food should not be taken that is repugnant to the patient, neither should one kind of food be used too long, as the sameness in food will fail to call out a proper effort of the stomach. Not more than two or three articles of food should be used at one time, and an occasional fast will be of great value, to let the acid pass off and the stomach rest, with free drinking of hot water to dilute and induce absorption.

Patients should spend a good deal of time out-of-doors, breathing deeply and freely of pure air, and take as much exercise as can be borne without fatigue, walking, riding, etc. Retire early and take plenty of rest, be very regular in meals, in retiring and in every thing; eat nothing between meals, be careful of what and how you eat, but do not think of it afterward; engage in some amusement or do something that

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will be pleasant to call the mind away from your stomach. Patients have a capricious appetite, are nervous, fidgety and changeable in mind; want help from somebody, some one to lean upon. But perseverance and faithfulness will bring restoration. The reward of health is the prize to those who "faint not."—*Dr. H. McCall.*

Cure of Neuralgia by Magnetism.—"Having been a great sufferer from neuralgia, I should be neglecting my duty if I did not make known how, under God's blessing, I have received so much relief. For twelve years I had been tormented with the neuralgic affection in the principal seats of the fifth nerve of the face. My condition was such that the slightest movement of the jaw, the least pressure on the chest, warm or cold fluids, would throw me into excruciating agony. I was compelled to take my food in a fluid state, and the slight effort required in swallowing this would cause a return of the pain. I had used all the appliances considered to be good in such cases, and taken an immense quantity of medicine, but without success, and have been under the most skillful physicians, who all agreed in pronouncing mine a hopeless case. Through my intense suffering my life become unbearable. I was recommended to try magnetism. I felt relief from the magnetizer's first attendance, and the paroxysms have now left me entirely—it seems like a miracle. I am convinced that the judi cious use of magnetism is a most powerful remedy for nervous complaints. My case is well known, and I should be happy to answer any inquiries.

I am, Sir, yours truly,
JOSEPH WALDEN."

Swallowing Pins.—Dr. McEvoy gives an account of a boy from whom he extracted a pin swallowed 14 months before. The boy was 13 years old, and the pin made its way through the walls of the stomach and formed an abscess over this organ, from which he extracted it by a surgical operation. Dr. A. Clark gives a case of a pin which he extracted from an abscess on the back of a girl. She had swallowed it five years before. It had remained in her system for years without before producing disturbance.

Hiccough.—The scientific name of this trifling affection is singaltus. It is caused by a sudden involuntary contraction of the diaphragm and the simultaneous contraction of the glottis. In low fevers it is a dangerous symptom, and in all cases indicates a morbid condition of the patient. It can usually be arrested by a sudden shock of fright, sufficient to attract attention; by sips of cold water, or by determined effort. It is more common with children than with adults, and can be prevented by avoiding the over-loading of the stomach with food composed largely of fine flour, grease, cakes, and other abominations of the table. A child brought up as it should be rarely has this morbid affection.

The Swimmer's Cramp—The cases of supposed cramp attending the sudden sinking of swimmers is explained by The Lancet, on the ground that the respiratory muscles must be the ones seized by the cramp, and in their action they force the air from the lungs so effectually that the body, which was before lighter than water, now becomes heavier, and consequently suddenly sinks below the surface. This journal recommends gymnastic culture of the respiratory muscles as the best preventive against the affection.

Delirium Tremens.—This disease is best treated by good nursing, magnetism, nourishing food, and avoidance of stimulants. The old practice of using largely of opiates is being gradually abandoned by the best physicians. Most important of all things is a pleasant, quiet room, and a healthy, agreeable, sensible nurse. If sleep does not come at once do not worry, for it will usually come in two or three days. The Turkish bath, where it can be applied, is an efficient help in equalizing the circulation and quieting the nerves.

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ANSWERS TO CORRESPONDENTS.

BY A. L. WOOD, M. D.

Lead Poisoning, Cosmetics, Hair Dyes, etc.—The following is an abstract of a report upon these subjects made to the Board of Health by the Superintendent, Dr. Elisha Harris, and published in The New York Tribune. Thousands are being injured, many fatally, by the use of these poisonous nostrums; and it is high time for the attention of the public to be called to the facts of the case:

"It is my duty to ask the attention of the Board of Health to the unrestrained sale of poisonous solutions and preparations of *lead* under the names of Cosmetics, Bloom of Youth, etc. Circumstances that have recently occurred in connection with two very obscurely reported deaths, render it expedient for the Board to order a very thorough chemical investigation of this and all other common sources of lead poisoning. This duty was commenced early in the summer, and some results were reached, but the pressure of work has prevented the completion of the inquiries. But thus far every specimen analyzed is found to contain lead. This confirms the fact, which was well known before to certain chemists who had investigated the matter.

But we now have opportunity to bring to the attention of the Board of Health several cases in which actual poisoning has occurred, in persons who used the popularly advertised nostrums here mentioned. The following note from Dr. Lewis A. Sayre, accompanied by reports of several cases of clearly proven lead poisoning by one of these fashionable lotions, is respectfully submitted to the Board:

'*December* 23, 1869.

Dr. ELISHA HARRIS, *Sanitary Superintendent of the Metropolitan District:*

DEAR SIR: I send you a report of three cases of poisoning by the use of a cosmetic known by the name of "Laird's Bloom of Youth." It seems to me that the suppression of this dangerous cosmetic is a duty devolving on your Board, as much as that of any other poison.

Thousands are using it daily in ignorance of its composition, and I think its sale ought to be prohibited by the strong arm of the law. Very respectfully, your obedient servant,

(Signed) LOUIS A. SAYRE.'

This distinguished surgeon does not exaggerate the danger that is experienced by all persons who apply this class of cosmetics to their faces or other parts of their body. The charge of poisoning seems to be too clearly made out against the particular nostrum mentioned by Dr. Sayre.

Recently a death from lead poisoning occurred in one of the city hotels. The gentleman was a merchant of some distinction He was killed by the daily use of a hair-wash that is believed to have contained large quantities of the acetate and carbonate of lead. Unfortunately we could not ascertain the name or any samples of the nostrum, and did not obtain the evidence until after death.

In view of the importance which attaches to the entire subject of lead poisoning, especially as respects the water we drink, the preserved foods in the marts, and the nostrums that are sold without restraint in the shops, I would respectfully ask the Board to take some action by which the sources of lead poisoning shall be fully reported upon; and, further, it seems plainly our duty publicly to warn against the use of any lotions and cosmetics which the Chemist of this Board proves by analysis to contain lead in any form; a list of which will be given to the Board as the work of chemical analysis progresses. It would appear to be entirely justifiable and dutiful to prohibit the sale of these nostrums, if the Board has the power to enforce such prohibition, as some useful lives are being lost and a vast amount of neuralgic and palsied misery is being produced by such poisoning. Even the Croton water needs to be conducted through iron or tinned pipes in our dwellings in order to give entire immunity against the slowly-acting effects of the minute quantities of lead that are borne along to our apartments by the common lead tubing now in use."

Liniments.—"Do you approve the use of liniments to relieve pain and in cases of bruises, rheumatic affection, etc.? They often seem to produce good results. Is there any objection to their use, and if so, what?

I do not approve the use of liniments in any case. Not but that good results follow their use, for such is often the case, but because, 1:

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their use weakens the skin, and many of them are poisonous and being absorbed into the system poison it; and, 2. their use tends to keep up the faith of the people in drugs, and thus prevent the application of more efficient remedies. The benefit following the application of liniments is due principally to the rubbing which accompanies it, and which is very useful. Thus, the rubbing does the work and the liniment gets the credit of it. Heat is by far the most efficient agent for the relief of pain and soreness. It is cheap, easily obtainable everywhere, readily applied, and, when rightly applied, incapable of harm. It can usually be best applied locally, by means of flannel cloths wrung out of hot water, or by bottles filled with hot water. It is best applied generally by means of hot air, vapor, or hot water, by immersing the body in them.

Constipation, How Cured.—"My bowels are constipated nearly all the time, have been so for ten years. I was recommended to use the tepid water enema, say about seventy degrees, which I have been doing for a long time, and avoid the use of cathartics. I find I can not get along without the daily enema. Can there be any injurious effect arise from its constant use?"

The water enema is very useful—in many cases indispensable, but it should only be used temporarily, until a natural action can be brought about by other means. Strict attention to diet is indispensable in such a case as this. Fruit should form a large part of each meal, and the balance be mostly or wholly made up of graham bread, oat meal, cracked wheat, and vegetables. Fine flour bread or cakes, milk, fat, condiments, etc., should be avoided. Plenty of out-door exercise is especially desirable. Daily kneading and manipulation of the bowels will prove very useful in restoring their natural action. If you do not already do so, learn to breathe by expanding and contracting the abdomen. This is the natural mode of breathing, and keeps the digestive organs in constant motion. If you wear corsets, or dress so tight you can not do this, burn up your corsets and loosen your bands, or give up all hopes of ever being cured. Unless you learn to breathe naturally, whatever else you may do will probably prove unavailing. Breathe in the way indicated, and persevere in the course above marked out, and a cure is certain. In case the water enema should ever fail in giving temporary relief, employ thorough kneading of the bowels and the hot fomentation.

Don't be Afraid of Pure Cold Air.—Don't be afraid to go out of doors because it is a little colder than usual. The cold air will not hurt you if you are properly protected, and exercise enough to keep the circulation active. On the contrary, it will do you good; it will purify your blood, it will strengthen your lungs, it will improve your digestion, it will afford a natural, healthful stimulus to your torpid circulation, and strengthen and energize your whole system. The injury which often results from going into a cold atmosphere is occasioned by a lack of protection to some part of the body, exposure to strong drafts, or from breathing through the mouth. Avoid these, and you are safe.

Don't be afraid to sleep in a cold room at night with the window open. Cold air, if pure, will not hurt you at night any more than in the day, if you are protected by sufficient clothing and by breathing through the nostrils. If you do not breathe thus, acquire the habit as soon as possible.

If you wish to be subject to colds, coughs, and fevers, shut yourself in close, hot rooms day and night. If you wish to be free from their companionship, always have plenty of pure air to breathe, night and day, take daily out-door exercise regardless of the weather, except as to protection, and eat, drink, and bathe, as a Christian should.

How to Warm Cold Feet.—An excellent mode of warming cold feet by exercise, which is the true way of warming them, is by means of an ordinary iron dumb-bell, the balls of which are from four to six inches in diameter, or a cylinder of heavy wood some six inches in diameter and a foot and a half long, may be used. The bell or cylinder is placed upon a smooth floor and the patient, with slippers or shoes on, steps upon it and rolls it along backward and forward, balancing at first with a rod, or by taking hold of another person's hand or other support. A little practice will enable him to balance himself and move along easily, without assistance. All who are troubled with cold feet, and are strong enough, should try it.

THE LAST PLAGUE.—The last plague in Europe was in 1719, and destroyed ninety thousand persons. It was introduced into Marseilles by an infected ship, which had been refused admittance into Sardima, because the King seemed to understand the nature and consequences of the disease on board. It is a notable instance of the value of knowledge and precaution.

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NOTICES OF NEW PUBLICATIONS.

THE VOICES. By Warren Sumner Barlow. Second Edition. Boston: William White & Co., Banner of Light Office, 158 Washington Street. New York: American News Co., Agents, 119 Nassau Street. 1870.

This is a book of poems consisting of three parts, or rather three poems. The first, entitled "Voice of Superstition," is the delineation of an imaginary conflict supposed to have been waged between the God of the Bible and Satan, and goes to show that Satan was uniformly victorious from Eden to Calvary. Much of the argument and criticism of this part is valid, as against a scheme of theology which is based upon the assumption that such a conflict has existed from the beginning and is the central fact in the history of the universe. How far the Bible itself is responsible for such a scheme of dogmatic teaching is a point to be determined each for himself, with such lights of criticism and interpretation as he may have at command. Certain it is, however, that many enlightened minds, including some of the ablest and most independent critics and scholars, reading the Bible as they do other books, and without the bias of a false theory of inspiration, regarding it as a miscellaneous collection of writings upon various subjects by authors enjoying different degrees of illumination and living in ages remote from each other, do not find in it any such *connected* scheme of theological teaching as that against which the muse of Mr. Barlow so indignantly breaks a lance.

The second poem, called "Voice of Nature," teaches that the universe is governed by One Infinite and Perfect Being, who admits of no divided sway and suffers no part of his creation to be perverted from its original purpose and use through the power of any maleficent will. The writer views Nature and Human Life from the standpoint of optimism.

"No part is evil, could we see the whole."

The third poem, which is briefer and less ambitious in design than the others, is called "Voice of a Pebble," and goes to show that every thing in the realms of matter and spirit, from the pebbles of the brook to the highest angel is impressed with a distinct individuality, and all are diverse forms of Divine manifestation.

There are many good thoughts in this work, and some indifferent poetry. Passages are not wanting, however, which show the true poetic fire.

The book is handsomely gotten up in beveled boards and printed on excellent paper.

ELEMENTS OF COMPOSITION AND RHETORIC. Practical, Concise, and Comprehensive. By Simon Ken, A. M., author of "First Lessons in English Grammar," "Common School Grammar," and "Comprehensive Grammar." New York: Ivison, Phinney, Blakeman & Co., 47 and 49 Greene Street. 1869.

This is one of the most sensible books of its kind it has ever been our good fortune to examine. After a careful and thorough perusal, we can fully indorse the publisher's statement as a just characterisation of the work: "It is a simple, concise, progressive, thorough, and practical work on a new plan. It occupies an intermediate position between common grammar and higher rhetoric, embodying from each what is practically most useful to the writer. It aims to make the student inventive as well as critical, to qualify him for prompt and proper expression in discharging the common duties of life, to guard and refine his taste in the general pursuit of literature, and to aid him in his own literary productions."

Undoubtedly the grand aim of the teacher should be to assist the pupil in finding the use of his faculties. As regards the intellect, the main point is to stimulate and train the powers of observation and expression. An apt observer is a ready thinker; and the young mind needs special training in the art of finding thought at least, as much as in the art of expressing it. It is safe to say, however, that more attention is given in our schools to the latter than to the former. Pupils are taught to remember and repeat, to analyze and criticise the thoughts of others; but they are not sufficiently impressed with the importance of having a fund of thought in themselves. They can repeat, perhaps, promptly and accurately whatever is contained in the books they have studied—they can give you the boundaries of a State and an intelligent account of its geographical features, the character of its soil, its staple productions, chief cities and towns, and what is noteworthy in each, because some one has prepared a synopsis of these, which has been impressed upon their memory. But require them to write a description of their own neighborhood, or an account of some process in the arts or manufacture carried on under their eyes every day, and they will be at a loss what to say. They have not been taught to observe and think for themselves.

We welcome this book because we think it is admirably adapted to supply the deficiency we have pointed out in the prevalent system of training. To the teacher, who is ambitious to induct his pupils into the difficult art of composition by some more systematic and satisfactory method than that which is usually adopted, this work will be a valuable aid.

The style of the author is as unexceptional as his plan. It is clear, concise, and correct—a model, indeed, of qualities too rare in this age of verbosity and pretense.

HISTORY OF THE UNITED STATES OF AMERICA. By Harvey Prindle Peet L.L. D., late Principal of the New York Institution for the Instruction of the Deaf and Dumb. New York: Egbert, Bourne & Co., Printers and Publishers, 358 Pearl Street. 1869.

This is a book designed for the use of the young. From a careful examination of its contents we judge that as an attempt to teach History to this class of persons it is more successful than most works of its kind. The author's style is simple to a remarkable degree, yet always dignified. His statements are clear, concise, and direct. The narrative abounds in minute details, yet is never tedious. The incidents are in general well chosen; and the plan sufficiently comprehensive to present the pupil with a clear, connected outline of the history of our country from the date of its discovery to the close of the civil war. The book is evidently the product of much careful study and of a ripened judgment, and we cordially recommend it as worthy the attention of all who have occasion to use such a work.

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THE PUBLISHERS' DEPARTMENT.

This Number.—We will let this number of THE HERALD speak for itself. If there is not variety enough in it to suit, and valuable matter enough to please and satisfy all, we are very much mistaken.

Our New Wrapper.—Single subscribers at any postoffice will notice that they receive this number in our new superb Envelope. We have had these made that THE HERALD might be sent flat, and thus reach subscribers in better condition than if folded. The end is cut just enough to allow the Postmaster to see it is printed matter, but not enough to allow of its slipping out. Subscribers who do not receive the monthly regularly will please inform us, and we will send missing numbers. We shall take special pains to mail THE HERALD carefully, but can not always guarantee its safe carriage after it is out of our hands. Being a valuable magazine, and so different from most of the monthlies of the country, we know that it is often stolen from the mail by persons who have too little conscience to do right. We hope they will learn enough from it to reform and subscribe.

How to Send Money.—In making remittances for subscriptions, always procure a draft on New York, or a *Postoffice Money Order*, if possible. Where neither of these can be procured, send the money, *but in a Registered letter*. The present registration system has been found by the postal authorities to be virtually an absolute protection against losses by mail. *All* Postmasters are obliged to register letters whenever requested to do so.

A Good Sewing Machine is given free for a club of 35 subscribers and $70. This premium is very popular. If there is a poor, deserving family in your neighborhood help it to get a good sewing machine by subscribing at once. Perhaps your minister's wife wants one. If so, help her to get it, by helping her to get up a club. The Empire is one of the best sewing machines in use, and we are sure that it will give you good satisfaction.

The Picture of Humboldt.—We are now sending out the picture promised to our single subscribers for 1870, who send directly to the publishers $2. Lest there be a misunderstanding on the part of some, we state distinctly that those who take THE HERALD at club rates will not be entitled to it. The way to secure the picture is to send your money direct to the publishers.

Home Treatment.—Invalids wishing prescriptions for home treatment can have them for Five Dollars. They should send full particulars of their cases. Any person sending five new subscribers to THE HERALD OF HEALTH and Ten Dollars, will, if he does not choose other premiums, be entitled to a prescription for treatment free.

Caution.—Our friends in writing to us will please be very particular and give Postoffice, County and State with every letter, and not depend on us to remember where they live, though they may have told us a hundred times. Those who think we can turn to our books and find their names and address without trouble, are quite mistaken.

Notice to Our Correspondents.—The following hints to correspondents should be observed in writing to us:

1. ALWAYS attach name, Post Office, County, and State to your letter.
2. SEND MONEY by Check on New York, or by Postoffice Money Order. If this is impossible, inclose Bills and register Letter.
3. CANADA AND NEW YORK CITY SUBSCRIBERS should send 12 *cents extra*, with which to prepay postage on subscriptions to THE HERALD OF HEALTH.
4. REMEMBER, if you are entitled to a Premium, to order it when you send the Club, and inform us how it is to be sent.
5. REMEMBER THAT WE NOW GIVE the *Empire Sewing Machine* as a premium. It is guaranteed to give good satisfaction.
6. REMEMBER TO SEND in Clubs early.
7. REMEMBER TO LOOK at our Premium List and Book List, and see exactly what we give and have for sale.
8. REMEMBER that for the names and addresses of 25 persons, either invalids or friends of Temperance and Health Reform, we give Prof. Wilson's book on the Turkish Bath. It contains 72 pages.
9. STAMPS should be sent to prepay postage on letters that require an answer.
10. Those who want a good *Spirometer*, *Parlor Gymnasium*, or *Filter* for making their water clean, will find the prices in another column.
11. INVALIDS from all parts of the country are invited to write to us for our circular, and full particulars as to Treatment or Board in the Hygienic Institution, See advertisement elsewhere.
12. See List of Books elsewhere.

A New Premium for All!

We have had engraved a very fine **Steel Engraving** of **ALEXANDER VON HUMBOLDT** after an Original Oil Painting owned by A. T. Stewart, Esq., which we shall present free to every subscriber to THE HERALD OF HEALTH for 1870, who sends $2 00. It is of large size for framing, and has been pronounced by competent judges an excellent likeness. It will be sent postpaid by mail.

Wanted.—Will our readers please send us brief items of news and experience referring to Health and Physical Culture topics. Make them pointed and practical, and we will publish them for the benefit of others. Do not mix them up with business or personal matters, but on separate sheets of paper and in readiness for the printer.

Clubs of Twenty-five.—Any person who will send us at one time twenty-five new subscribers to this monthly, shall have them for Twenty-five Dollars. Remember they must be new subscribers, and all be sent at one time.

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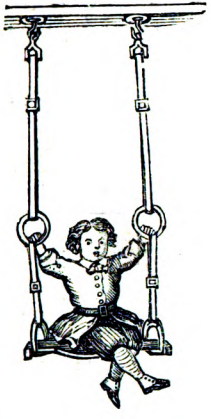

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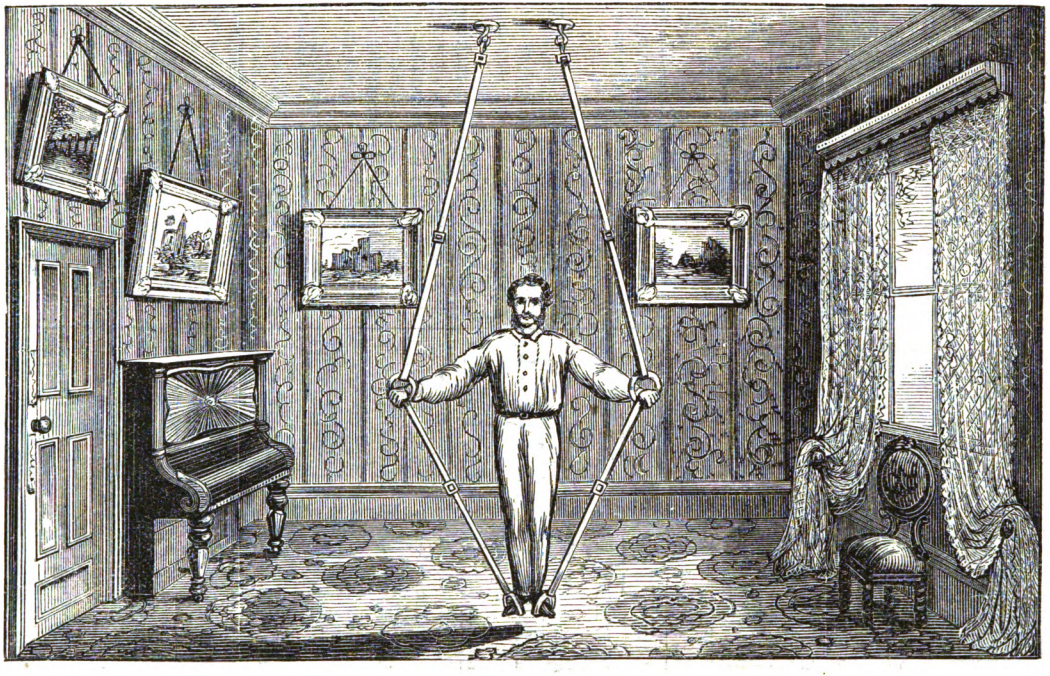

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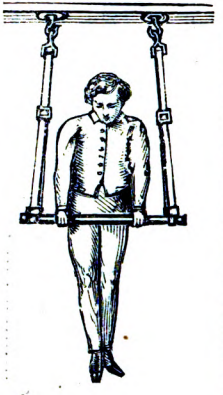

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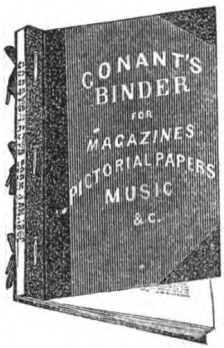

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ADVOCATES

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APRIL, 1870.

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PUBLISHED MONTHLY BY WOOD & HOLBROOK, 13 & 15 LAIGHT STREET.

THE TWO WIVES.

BY MRS. ELIZABETH OAKES SMITH.

CHAPTER XII.

AN INTERVIEW WITH JOHN STEARNS—MRS. PYNCHAM SORELY EXERCISED—THE PROFESSOR RENEWS HIS YOUTH.

WE left Sister Electa nearing the house of John Stearns. It would seem that the excitements consequent upon the death of his mother, and the violence of Janet, had given rise to a series of attacks, known among the vulgar as "fits," and suggested to his mind the not improbable termination of his own life; hence his desire to set his house in order before he should "turn his face to the wall," as the Scriptures so poetically describe the final ignoring of the world and its interests.

It had been better for the man had he been alone in the world—alone to meet its petty cares, and small, actual necessities, rather than be hemmed in by four walls, from which rebounded perpetual noise and discontent, weak repinings, jealousy, and rage. We talk of the sanctity of the domestic relation, and our traditional reverence for it indicates rather what it should be, than what it is.

As Electa approached a small wooden building fronting the river, and under the brow of a hill, into which it seemed to be inserted, she heard the sharp voice of Janet call out,

"Going to the dram-shop, are you, John Stearns? You 'd better stay at home, and save at least money enough to bury you with, lettin' alone the claims of your widow!"

"I'll be back, anon," was answered, and a large, bony man, with a stern brow, and a face habitually inclined forward, a not unhandsome face though, and a mouth looking as if permanently glued together, slinked out of the house and sidled along in the shadow of a few scattered pine trees, which had found means to live despite the scanty soil and bulging rocks, that hardly left sufficient room for their roots. Here he sat down and watched the narrow pathway up the hill, which looked like a tawny streak through the coarse grass. Seeing Sister Electa approach, he went forward, and conducted her to a clump of trees near by, under which he had spread hemlock branches so as to construct a not uncomfortable seat.

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"I feared you would not come. I have had a bad turn," said the man seating himself upon a rock some little space below her.

"Thee sent for me; and I remember that David Parker once told me if ever John Stearns wished to see me, it would be well for me to go to him."

The man was silent for a space, and then said, "Will you take off your bonnet, that I may see your face clearly?"

"Certainly, I will!" and Electa's clear brow and rich dark hair shone out in the fading light as if radiated by a soft halo.

The man pressed his hands together, kneeling before her as if in adoration of a saint, and then he buried his face in the earth and groaned audibly. "I have so longed for this interview, and now I am powerless to speak," he said at length.

"If thee has done any evil deed, John, thee must find courage to confess it, and repair it."

"Go home, woman—go! I can not, will not tell. But when I send, you must not fail to come."

"Thee is bold, and threatening—why should I come to thee?"

"It may be to save a human soul," he replied.

"I will come at thy call," she returned, rising to her feet, for the place grew dark and solitary—the stars were lost in the horizon by the river fog, but in the zenith they shone with a clear metallic brilliancy. The wind sighed sadly through the pines, and the dark, sullen man loomed like an evil specter through the gloom, and yet, as he came near her, his voice was so low and tender that Electa was much awed and troubled by a sense of something not unfamiliar to her.

"Do you think a child would curse a parent, however guilty?" he asked, nearly in a whisper.

"The curse of one so lost to all that is good, would be harmless," she replied.

"When a soul has longed, day and night; longed for years and years, and having repented of his wrong, longed to hear a voice, a voice never to be heard, say 'I forgive!' think you that soul can be forgiven?"

"God help thee, I fear thee has been very guilty. But God is merciful!"

"The forgiveness of a child is more than that of God!" he cried.

"Nay, nay, thee talks wildly. The common Father is greater than all."

"Like all women, proud and conceited. I have said too much."

At this moment a shrill voice was heard to call from the cottage below, "I see you there on the hill, John Stearns; come down—don't be mooning there this time o' night, and your supper getting cold."

Electa hurried her steps over the ground covered with chips and flats of timber, long piles of boards, with a stick of pine between each, looking like vast honey-combs, and over grass damp and mixed with tall weeds, till she reached the grove of pines in the rear of the college buildings. Here she paused, that she might recover herself, and walked back and forth awhile over the smooth red threads of the pine leaf which carpeted the ground, and breathing the aromas of sassafras and winter-green, under the tall colonades which seem of themselves to invite the soul to peace.

During her absence, Mrs. Pyncham had busied herself in putting the kitchen to rights, in snubbing and scolding Bridget, till she was all of a heat, and making some cream-cakes for tea. She had now resumed her mittens and her "front room" face—rigid, enduring, forlorn. She told the Professor she "hoped he was not getting dropsical, for his skin looked wondrously clear and smooth," whereat the modest man flushed up like a girl, and Cora cried out gaily,

"And how do I look, mother?"

Mrs. Pyncham shook her head portentously, "My poor child," and she rolled her eyes upward, "sorrow and disappointment will leave their impress upon the face."

Cora, in her turn, reddened, and appealed to Sister Electa, to know if she was not as pretty as ever she was in her life. To which the maiden replied,

"Thee is uncommonly pretty, Cora; there is no denying it; and if thee is not content and happy, thee is to blame for it."

"I never knew an old maid in my life that did not side with the man, in case of any difficulty between a couple," retorted Mrs. Pyncham.

"Now, Mother, nobody but you would call Electa an old maid," cried Cora. "Why, she is almost baby-looking. If she had not so much sense, I should pass for the oldest."

Mrs. Pyncham adjusted her spectacles and scanned the face of Electa in silence; then she took them off, wiped the glasses on her pocket-handkerchief, pulled her mittens up at the wrist, gave her little body a little twist, and stared resolutely at the carpet.

"How provoking you are, Mother!" was Cora's exclamation, but Sister Electa very gently proposed that the Professor should read aloud while the three women plied their needles.

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"I have no interest in those awful books Mr. Lyford reads; they are no better than infidelity, and deism, and scepticism, and unbelief generally. I am an orthodox woman, and do not care to have the doctrines of my salvation disturbed. Look to it, Cora, that you do not renounce your religion, by the ungodly conversation into which you are beguiled."

"There, Mother! you are more absurd than I ever thought you were. Do shut up!"

"My own child turned against me! I can bear it. It is the cross appointed me to bear!" rolling her eyes upward.

"Well, I never dreamed, Mrs. Pyncham, that any one would think I would be willing to shake the religious faith of your daughter." This from the Professor.

"Never dreamed! You deal in dreams on a large scale," retorted Mrs. Pyncham.

The Professor's face contracted sharply, and he replied, "To dream may be a misfortune, but certainly it can not be regarded as a great crime."

This reply seemed to start Mrs. Pyncham off in another direction, and she answered, "I dream a great deal myself. Always dream before something happens to me. I dreamed all my teeth dropped out just before your father died, Cora, and before"—

"Goodness gracious, Mother! do not talk such stuff," cried the impatient Cora. "I do think women are the greatest flats in the world. I wonder if they are born so, or made so!"

"I can bear it all, Cora. To think my child should call me a fool, or a flat, which is the same thing. I have nourished and brought up children (one child), and they have rebelled against me (that one has)."

"George, are n't we women frightfully foolish, and bad, and contemptible, and unbearable?"

The Professor smiled, and replied, "I know of one who is not at all that, but is a little impatient," and he took his study lamp and was gone.

"There now, Mother! you've driven George out of the room. I hope you are content."

"My child, I was just on the point of leaving for my prayer-meeting, so he might have staid."

Mrs. Pyncham put on her bonnet and shawl, exchanged her mittens for gloves, and was ready to go; but her cold, hard, lonely face touched the heart of Cora, and she kissed her on both cheeks, and called her a dear, pious old soul, and smoothed her shoulders, and went down the walk with her, and kissed her again, and said "good night."

In the meanwhile, the Professor wrote in his journal.

"My dreaming goes on, clear, connected, a distinct life—an existence as defined, as perfect, as any waking life. The scenery unvisited by me except in books is bright and beautiful. The tropical stars gleam in their refulgent beauty—volcanic mountains send forth their volumes of smoke and flame—the solemn teocalli, with its mysterious architecture is coherent and apt to the design. The Flora is open to scientific analysis; the animal life subject to the same test. Humanity, including my own being, is swayed by all the ordinary passions of our kind. Not a link in the chain of existence is deficient. I thrill with delight. I blanch with terror. I exert the courage, and the resources of manhood. I analyze the expressions on the face of Zalinka—her marvelous beauty is ravishing to the sense, and her melodious voice thrills my heart with rapture. And yet I sleep but a moment. I, here in this nineteenth century, a plain man—what some call a foolish man (in that I have married Cora, who is so much my junior, a fair, willful, capricious girl)—sleep, and instantly I exist thousands of years agone, amid scenes vital in all that comprises a primitive, sensuous civilization. In this dream-life I am conscious of a moral sense unlike that of my nineteenth century obligations—I am conscious of a keen, subtle, virginal, indescribable joy. I do not analyze intellectually, but by an innate instinct—I think less, I feel vastly more. I seem to myself younger, stronger, more buoyant—easier pleased, easier driven to rage. My passions are more intense, but not urgent; on the contrary, they require more of the gorgeousness and splendor of material appliances, and the unending accessories of the infinite charms of the senses, and the sentiments of the beautiful. Gold and silver, gems the rarest, and flowers of the richest aroma, seem essential to the all dreaminess of love. In truth I am less the intellectual man of the nineteenth century—consistent, subtile, reasoning; and more the primitive, impulsive creature of an earlier date—proud, vigorous, healthful, and handsome; daring, honest, brave.

"Ah me! ah me! I do not wonder that Lot's wife looked backward. In my dream-life I do not for a moment recognize my life of the nineteenth century. Zalinka engages every thought and every emotion. Cora, for the time being, is non-existent. I have no remorse when I clasp the hand of Zalinka, as though untrue to

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the lovely Cora. I am of a younger race. I am nearer the primitive man. I am a glorious creature of untrammeled instincts, and glowing health and passion. The old cumbrous worship, the vast, gloomy pyramids, from whose summits I commune with the stars—the mystic cross, the mystic serpent, fill my mind with awe and an inward, inconceivable sense of worship, that tears aside the mysteries of the unseen and eternal. Progression, eternity, are the natural expression of the material, always evolving the finer, more abstruse, and intangible to the sense, and thus the religion of the primitive men was less intellectual but more fervid, more real, than that of the men of the nineteenth century. To the primitive men, all nature symbolized the hidden and the eternal, and he beheld a meaning where to us is only a blank.

"Then, too, that intermediate state in which I recline on the banks of the Gila and recount my story to the fine old hunter, Rodman, is another existence, in which I live complete, and revive in memory, not as a dream, but as a reality, my life amid the scenes of the teocalli, unconscious of any discrepancy, although we both own to a more modern existence. In this, too, I am irrespective of my life as the plain, somewhat shy professor, husband to the pretty Cora, and talking long hours with that wondrously fair and original mind shrouded in the person of Sister Electa.

"Surely, we are fearfully and wonderfully made. I press the beautiful Zalinka in my arms, and she is all in all to my heart. I awake, and Cora's dear cheek is pressed to mine; and I reproach myself that I have wandered away to other constellations, and listened to the melody of other birds, inhaled the aromas of sunnier skies, and thrilled beneath the touch of a richer, fuller, more gorgeous creation, while she, poor dear, claims from me leal duty, and undivided affection. Ah me, ah me! the old existence is troubled less with doubts and fears than the new. Ah, its restrictions are less, its devotion and singleness more complete! We have strayed from the freedom of innocence, and have gained but one emotion, that of remorse.

"Which is the true life: that in which I sleep, or that in which I think I wake? Are we, each one of us, actual children of the first pair, living through all the ages, believing, hoping, loving, and then dying? Have we come adown the past, through all its stages, from the child man to us, the *civilazée*, of the nineteenth century? Let me dream! Oh, the barriers of time and sense yield to the infinitude of dreams. In them we realize that a thousand years is as one day, and one day as a thousand yaers. What then? What is man?

"Poetry is the natural language of youth and passion, and I, the prosaic professor, hear the far-off chimes of these grand, beautiful ages when Homer sang, and the shadowy heroes of Ossian leaned from their hall of clouds to listen to the praises of dauntless warriors. I breathe in rhythm, and my lips will utter the recurring sweetness of rhyme. Thus I record what comes unbidden to the mind:

"LOVE FIRST AND LAST."

A SONNET.

All things of earth must change—Time spareth not
Nor great nor small, nor beautiful, nor vile.
The glowing thought, enchanting man erewhile;
Good or ignoble deeds, like dullard lot,
He beareth onward, all to be forgot.
How then do human hearts their fate beguile,
If Earth bears nothing, change may not defile!
Oh, Great Eternal Love! from Eden brought;
Twin-born with Light, upon the golden hill
When first the morning stars began their song,
Thou dost the bitter cup so grandly fill,
That we in loving thee forget all wrong—
Thou pure, unchanging, all-enduring still—
All else decays, thou art for ever young.

"Alas, alas! In the long, long years, how little thought has been evolved! Man is less heroic now than in the past. Thrift usurps the place of enthusiasm. Ideas are diffused and diluted. Let me think of the lovely Cora, my sweet Cora, so charming to me of the nineteenth century—but Zalinka, of the forgotten life, the weird, Sibylline Zalinka, is all glorious!"

CHAPTER XIII.

CONSCIENTIOUS SCRUPLES OF THE PROFESSOR—A BEAUTIFUL YOUTH—CORA REASONS PRETTILY—ELECTA THINKS AND ADMIRES.

IT might have been observed that the Professor no longer left his record, as he had hitherto done, upon the table, but he folded it away among his mathematical problems, pressed down by a volume of Euclid; and he made his entries therein when least likely to be interrupted by the entrance of the sprightly Cora.

He writes: "I am seriously in doubt whether I have done the right thing in taking Cora to wife. I number more years, but am as young in spirit as she is. My pursuits are grave, and

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my habits studious. I neither dance nor sing, and she is fond of both. I am very exact in my person, and she, fastidious as she is, never shows any repugnance to me; did she do so, God forbid that I should be a trouble to her sweet, lovely nature. I would be her friend, her protector, her father even.

"Sometimes I think she is like a child to me, and then it is that she is like the rose of Sharon, and the lily of the valley in the holiness and completeness of my affection for her. Then all her gayety, all the fascinations of her beauty, all the piquancy of her mind, fill in with some void in myself, and I am so content that I repeat to her:

"'If it were now to die,
'T were now to be most happy, for my soul
Hath her content so absolute, that not
Another comfort like to this succeeds
In unknown fate.'

"Cora then gushes into a beautiful laugh, sometimes with tears in her eyes, and pulls my beard, and says 'I am a foolish old boy to love such a little goose.'

"Cora, I am thankful to say, does not analyze at all. She is content to be content. It is enough for her to be sweet and beautiful. I wish I could live in a world where reforms and reformers were not needed. Where it would be just as natural for men and women to be chaste, and loving, and tender, and religious, and beneficent, as to breathe. Women like Cora anticipate such an age.

"'They do God's will and know it not.'

"Since I dream I am growing to feel a contempt for many of the pursuits which so much engross us of to-day. I have even shown this in my lectures. For instance, I spoke freely and strongly of the folly of studying so much the Greek and Roman Republics, whose significance had become obsolete in human progress, while we neglected the study of our own chartered rights. I said, with fervor, that as collegians they must study the lessons set before them, but I showed them plainly that much they there learned was of a demoralizing character; that the tone of morals in past ages was far more debased than what ought to be tolerated in our own. That no Christian nation ought to do battle for the sake of the conquest; that slavery now in every shape was contrary to the spirit of the age, and contrary to the moral sense attained in our day.

"I showed them that no man ought to speak for the sake of speaking, but to convince; that eloquence was not merely in words, but existed in the spirit—breathed itself into every nerve and sinew of the speaker, because his subject was a living gospel to him. I called upon these young men to be in earnest. To be chaste, because their bodies were the temple of the Holy Ghost, and not to be profaned. To be pious, because they lived amid what were daily miracles to mere sense, and all things spoke audibly of God. To be patriotic, because the land of one's birth was best known to us, and ought to be best cared for, and its institutions studied, watched over, and its liberties guarded with ceaseless vigilance, even if those of all other countries were neglected or forgotten.

"My class listened with glowing eyes, and I felt that good would come to them. One young man, more thoughtful in character than most of them, handed me with a blush and most deferential bow, as I was leaving the hall, a slip of folded paper on which he had written in pencil the following:

"'Is the term Slave to be confined to the bought and sold slave?

"'Is not the Christian a Church Bondman?

"'Is not the Wife a Bondwoman?

"'Is not the Husband a Bondman?

"'Is not the unfranchised woman politically a Bondwoman?'

"I read with a sort of horror. I am so ultra conservative. I read with anger, for this youth was more daring than his teacher. I read with shame, for we who profess to lead the minds of the young never see the ultimate of our teachings. We shade the eyes with hand, and beneath this circumscribed range imagine we see all that ought to be seen, and all that can be seen.

"I resolved not to reply to these queries, they being *outside* of the obvious range of scholastic instruction. As a professor in my particular branch, I had nothing to do with the progressive ideas of the age. I felt determined to keep within my prescribed channel, with such generalizing and rhetorical flourishing as grew naturally out of my subject, and which may give testimony to the higher and more eccentric grooves, which even Truth will sometimes scoop out for herself, without disturbing those placid and serene paths amid academic groves and softly echoing porticoes, where Hyblean bees disport themselves, and the doves of Dordona soothe into calm rapture the otherwise too fervid and too aggressive powers of the mind; for what are our colleges meant to be other than receptacles for old clothes, handed down from all time, each garment now and then to be

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taken out, turned, dusted, examined, *not much shaken, that were dangerous*, and then folded away till the proper period of resuming the process shall again come. Our youth are placed there to be clothed in these old clothes, not to get ideas, least of all to question the fashion of the clothes, far less to qualm at their musty odor.

"I grew flushed with anger the more I thought of the audacity of the young man, and resolved to turn upon him the cold shoulder of disapproval, that he would no more molest me with his untimely queries. In spite of myself they would run in my mind, and I held the slip of paper unconsciously in my hand when the tea-bell rang, and I laid it by the side of my plate.

"Now, it so happened that Cora, as she sometimes does when we are alone, had coaxed Sister Electa to pour out the tea, and she had taken a seat by the side of me, where she amused herself by buttering my toast and nibbling at my cake; of course she spied the fold of paper.

"'Shall I?' inquiringly, holding it up with a pretty bending of the golden head to mine.

"'Certainly, love,' but with a cowardly flush, for I knew she would overwhelm me with questions.

"She read the first query aloud, with an affirmative nod, saying, 'Even *I* see that to be bought and sold is to be a slave in the worst sense.'

"She slurred over the Church Bondman with her brows lifted, saying, 'Beyond my depth;' but when she came to the Wife as a Bondwoman she flared up, rosy and resolute, if not wrathful. Then the Husband a Bondman; at which she laughed in merry wise, and picked a large plum from my cake, and put it between my lips, saying, 'that's it—serves you right. To be sure you are slaves.' Seeing me about to reply, she sparkled her jeweled hand before my eyes, and read on, '"The unfranchised woman" is a slave.

"'That's a big word. What does it mean?' This with the prettiest lifting of the brow, and a grave look.

"'Not admitted to the political freedom of men. Not admitted to a share in the government that controls her,' I replied.

"'Heathen, Greek!' she ejaculated; 'but seriously now, can you make it plainer, George?'

"'Not permitted to vote, by which means we choose our rulers.' I answered with a sort of inward shame, quite new to me.

"'Then she is a slave. I'm sure of it. George, I must vote. When can I do it?'

"'When the laws are changed, darling.'

"'We must change them; why, it's a perfect piece of arrogance and oppression, George. I must and will vote, or I won't obey a single ruler. Don't you say so, Sister Electa?'

"It was wonderful to see the radiant admiration with which Electa marked the pretty, wifely coquetries of Cora. She laughed a low musical laugh, and answered,

"'Indeed, I agree with you, Cora. All the franchisements of men rightly belong to women. In our sect of the Shakers, all the power is equally divided between the sexes. I do not see that one has any more right to rule than the other.'

"'There's wisdom for you,' cried Cora triumphantly. 'Sister Electa would make a better Secretary of State than Mr. All-snuff-and-tobacco-and-opium.'"

The Professor was startled at the manifest radicalism of his household, and opening a book lying upon the table, read the ominous account of the people who used to scatter pieces of meat where the crows could find them, and then predict events from their mode of eating and their flight.

Sister Electa asked if men had ever learned wisdom except by the cawing of crows?

The Professor did not take the idea.

"It seems to me," she said, "that when the croaking and noise of the people becomes intolerable we get a change and not till then. There must be the dead carcass of a worn out state of things, followed by a dangerous flight of black crows, and then rulers are driven to open their eyes and learn, and yield to the demands of the times."

"I think I take," said Cora, musingly. "We women must caw loudly and then we shall be heard, and then our rights will be granted."

The Professor thought of the college old clothes, and felt the dust working out of them and filling his eyes and nostrils.

"When men claimed inalienable rights," continued Electa, "it was but one phase of the democratic idea. It actually and unavoidably led to a like claim on the part of women. The second is an irrepressible out-growth of the first established claim."

"Where will it all end?" asked the Professor, walking up and down the room.

"Where God and the truth shall direct," answered Electa, her fine face glowing with emotion. "The danger never lies on the side of freedom; always on the side of repression."

"Tumult, anarchy, blood, must surely come of it," replied the Professor.

"Not necessarily. To grant justice is not to

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invite wrong. I am for peace, always, for ever —but always, and for ever in all cases, on all subjects, we must have freedom—or death, if death need be."

"And marriage?" demanded the Professor. "Are the married bondmen and women? Must they be free?"

"If the bond gall—if it fret, corrode, fester upon soul and sense, yes. Better temporary evil than life-long misery. Better annul the bond than dwell amid bickerings and discontent, and that famine of the soul that follows companionship which is no companionship—revulsion and torture and misery beyond expression."

"How learned you all this, Electa?" asked the Professor, bending his eyes sternly upon her.

"It is promised they shall be all taught of God, and thus have I been taught," answered the maiden softly, and at the same time rising and seating the Professor in his chair, and reverently throwing a handkerchief over his face, for he had fallen asleep.

CHAPTER XIV.

THE PROFESSOR PUZZLES RODMAN, WHO GIVES ADVICE—INTERMEDIATE MEMORIES—RODMAN A LOVER—TRUE HEART.

"'I TELL you plainly, George,' said Rodman, and he cast his pipe to one side with an impatient gesture, stuck his whole fingers through his crisp hair, leaving it to bristle savagely over his head, while he rolled over upon one side, and then leaning his cheek upon his palm, fixed his eyes intently upon mine. 'I tell you plainly, I shouldn't wonder if that Sarpent had kind o' pisoned your blood. I notice that you drop away to sleep mighty easy, without excusing yourself either.'

"'You do not mean to say that I have nodded, Rodman? Oh no, man! I never was wider awake; besides, I am not a good sleeper. I have to count one, two, three, often up to more than a hundred, before I lose myself. I'm afraid your pipe is too strong for you, old fellow.'

"'Well, that may be,' he returned thoughtfully; 'but did you ever have a sweetheart named Helena.'

"A confused memory of Grecian portiooes, and groves of pine, and olive, and fig trees, swept over my mind, but dim and indistinct; and a face appeared soft and fair, her locks bound with a golden fillet clasped with a grasshopper made of precious stones. I tried to grasp the vision, but its shadowy light faded in some distant scene and was gone.

"Rodman smiled, but said gloomily, 'You need not deny it, George. I shouldn't 'ave asked, only you called out the name a minute ago.'

"I was angry and bewildered, and made no reply, which gave him freedom to resume.

"'You're a younger man than I am, George, and can bear a plain word from an old friend. Your natur is lovin'—your thoughts run much on comely women, and I notice women mostly like lovin' men. But they're dangerous, dangerous! You wouldn't think it, George, but its very much my own natur,' and the noble old fellow blushed with the candor of a young girl. 'I restrained it, George, for a woman worth loving at all, is large enough to hold the whole of a man's heart; and its mean in him to expect the whole of hern, when he gives her only rags and tatters.'

"'Did you really ever be in love, Rodman?'

"'Yes, and she loved the old dog just as though he wasn't rough and unlearned, and plain to look upon.' Rodman laughed, as he said this, but the tears were in his eyes.

"'Where is she, Rodman?'

"He pointed upward, and the manly lips quivered, while a deep sigh rather rent then distended his bosom. After a brief silence he resumed:

"'You have seen a fawn at its last gasp turn up its tender-like eyes—well, I saw that look in hern, and then I knew she would die. Her last words was, "Dear heart! what will you do without me?" and I kept still, only kissing her hands. She was cold when I got up and looked in her face. She and her purty baby, such a wax-white purty dear, layin' on her bosom—and I buried them together. I don't think I've been just the same man since.'

"He buried his face in the grass, and I saw his stout frame quiver from head to foot. At length he looked up and resumed:

"'Well, George, she made me feel sort of holy. I can not tell how it was, being an unlearned man, but somehow I could never let another woman touch my lips. I don't mean that I am squeamish, or that women would care to do it, though comely women have treated me with kindness; but she finished up all that sort of thing in me, and I always feel as if a smilin' angel with a purty baby was holdin' out their hands over me.' He paused again. 'Now, George, it seems whelpish and unmanly, to my mind, to see a man dividing himself among so many women.

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It's foolish, and its dangerous, and I think wicked, and a man who does it leaves himself no time for any thing that is good and great. He gets all worked out, and weak, and spooney-like. I've talked too long, George, and maybe my talk wasn't needed; but if I hadn't loved you I shouldn't have told what I did. There, go on.'

"He rubbed his hand over his eyes, and filled his pipe slowly and with care. I was bewildered. I did not quite understand the justice of his reproof, for I am a temperate man, not given to vanity, and the last one in the world to be in any way bedizzened and led astray by the idle blandishments of the sex. I put my hand to my head and listened, for I heard a great bell striking the hours—one, two, three, four, up to twelve, loud and distinct. Then the sound was repeated, but more distant, and again and again—one, two, three, four, up to twelve; each time further back, as it were, in time; each one enumerative, receding, receding, till it was lost—fainter and fainter; and yet it did not stop, but was heard by an inward sense even more distinct than by the external ear. I saw the shadows of cities and empires, people innumerable, from the Nimrod hunters of the earth down through all the stages of civilization, pass like dim shadows before my eyes, and over all, and above all, were the great symbols of earth—the Serpent and the Cross.

"'You said lastly that the gal stepped her foot on the varmint and came straight to you,' said Rodman, taking his pipe from his mouth, and surprised at what seemed my silence.

"'The priest took the silver fillet from his brows and bound it around mine,' I resumed. Zalinka approached him and said softly, and yet with firmness,

"'Know you whence this stranger comes, my father?'

"'He is sent by the invincible God above all gods to teach the people, as hath been foretold.'

"'You will listen to him? you will obey him?'

"'Assuredly, my daughter.'

"'Know you not that before the new oracle the old worship must die?'

"The priest answered not, but a subtile, baneful fire gleamed in a side-long glance, which he turned upon me. Zalinka saw it, but took no notice thereof.

"'Is there a victim for the altar, when the first ray of light shall redden the teocalli on the morrow?'

"'Take no heed, my daughter, all is in readiness.'

"'I will myself hold the chalice for the blood.'

"'It has become the office of Navina.'

"'Nay, it is mine. I brook no interference with mine office.'

"'Thou art dead, my daughter, or translated,' this was said with a cold, cruel irony.

"'So be it!' she replied, and dropping her vail she retired.

"The priest motioned me to my room, preceded by the dwarf, who led the way. I followed in silence, and with a fearful belief that I was to be the victim of the morrow. My conductor glanced from side to side on entering the room, even lifting the curtains as if doubting whether some one might not be concealed behind them. I was about to throw myself upon the couch, overwhelmed with despair, and dreading that Zalinka would fall a victim to the arts of the priest, when the dwarf arrested me sternly, and pointed to a stone door sliding upon its groove. A tall figure robed in black beckoned me to follow, and the door was moved in its place by the dwarf who accompanied me.

"I found myself in total darkness, but the hand that guided me, and so thrilled every fiber of my being, could be none other than Zalinka's. There was a flash of light and the sound of approaching feet.

"'Be firm, be silent!' she whispered, pressing me back into a recess.

"I now saw three priests approach, led by the one I had before seen in front of the altar; all were draped in black, a cowl of the garment drawn over the head and nearly concealing the face; but the last and youngest of the three, a thin, eager youth, whose keen senses needed little to stimulate them to activity, had allowed his cowl to fall back, and loitered behind the rest. He had hardly passed where we stood concealed, when he stopped and seemed to listen, calling out,

"'Surely, I heard a breathing, and feel a presence.'

"He might well hear the beating of my heart.

"'It is nought,' rejoined the others impatiently. 'Some wild beast has prowled into the gallery, or it may be an owl; heed it not.'

"They moved onward, but he still lingered listening, and waving his torch from side to side. At length his dark, flashing eye had found us. Quick as thought I snatched a weapon from the hand of Zalinka and laid him dead at my feet.

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"Rodman laughed, a soft internal laugh, and took the pipe from his mouth.

"'When a gal trusts herself to a man in dark places, he must fight or die to bring her out clear and safe; it's risky always, but if a woman trusts you, it is no part of a man to let her be betrayed by himself or another. If people peep they must take the consequencies. But I suppose he was in the way of what he called dooty, and was going to give you a mighty sharp time of it, bent back on the bloody stone. Well, well, it's all edication. Mankind are cruel brutes, and when they murder about religion, they are at their cruellest.' He resumed his thoughtful aspect, and I went on.

"We were now in total darkness again. The dwarf whispered, 'Here are four galleries converging at this point. They will return and find the dead priest. He lies as if defending the gallery where we stand, let us take the next.'

"Saying this, she slid aside the heavy stone door, and we again descended. My head ached and my limbs shook as we went down, down, a hundred feet or more. At length we reached what seemed to be a roaring torrent, and I knew that we were near the stream which led through subterranean walls, and supplied the temple with water.

"'Whither do we go?' asked the dwarf. 'We are safe in these vaults. What is thy will, O Priestess?'

"The faint rays of the morning sun began to gleam upon the water, and the matin song of birds told that a new earth and a new sky awoke to life and beauty. I was chilled to the bone, faint and hungry, but Zalinka paled not, nor trembled, as the growing light revealed her noble face.

"'Go, Zarita, and bring us food, and thou, Teomax, sleep, and ere long I will explain my purpose.'

"Zarita had gathered the mosses so abundant in this region, and spread a couch for me where the sun rested upon the waterfall, and I was soon gone to that state which so softly prefigures the sleep that wakes not in this world.

"Zalinka had bent her head and extended her arms to the grand life-giving luminary, and then disappeared in one of the galleries which emerged at the base of the falls.

"'Arise!' said Zarita, touching my shoulder.

"'Fruits of various kinds formed our repast, and cakes, made of the root of the guava, a crisp, delicious bread, spread with creamy and dulcet fruits. I could not keep my eyes from the face of my beautiful companion, whose serene expression contrasted with the gloomy state of our fortunes. The dwarf Zarita took a small serpent from her basket under the supply of fruit which she had brought, and laid it softly upon the grass. Strange to my eyes, it began to crawl up the stone sides of the temple, and that, too, with apparent ease. Ascending the steps, leading to the first terrace, we could see that the creature was winding its way in the common path of the priests around the structure, but we dared not emerge from the shadow of the grove, which upon the side of the waterfall concealed the ascent in that direction.

"'The gods indicate our path,' said Zalinka. 'Listen, Teomax. My father dooms us two to death. He fears the extinction of the old worship, and, despite all he has said, would sacrifice thee to our greatest god this night. I, also, must die. There is one way of escape. We have drawn the heavy stone over the common passage of the priests to the great altar of sacrifice. They dare not drag a victim through the sacred Cross—it were sacrilege. Zarita has barred the way by which the procession, as was seen by thee, ascended to the area above. Listen, Teomax. I shall nevermore, after this night, wear the holy fillet of the priestess.'

"She folded her vail over her face, and was silent a brief space. She went on:

"'There is one other passage to the holy area of the teocalli above, known only to the high priestess. She holds the secret till she finds her fate approaching, and then she imparts it to the one neophyte, whom she in her wisdom and sanctity has trained to secrecy, and who will succeed her in the priestly office. Navina, as my father said, for a few brief years will take my place, and then suffer the fate designed for me; but she is firm, and will not betray a secret which has saved the life of more than one priestess and will save mine, but never hers, for we have barred all approach from below. Again she covered her face, and this time she wept long and bitterly. Rousing herself, she continued,

"'You must know that a priestess is supposed to be endowed by the gods with perennial youth, and that, when she has long ministered at the altar, she sleeps many days and many nights, and then awakes in pristine youth and beauty. I know that she lies bleeding upon the altar-stone, the last and most acceptable offering to the gods, and another takes her place. I have the sacred symbol upon my shoulder which gives me power beyond the high priest, and my father for this reason fears me. Arise, we must hence. I had hoped other-

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wise—I had hoped my father might—enough, we must hence.'

"As she made the last remark a lovely blush overspread her face, which she turned away from my too ardent gaze. I confess, I was not fully alive to her, or my danger—indeed, I thought only of her soft voice, her noble speech and lovely person.

"'That's it, George,' said Rodman; 'I opine, that there is something in a woman that dazes the eyes of us men; they may be weak-like, but the kind, such as you tell about, take a man's soul right out of him, and he's no more 'n one o' them calabashes dried in the sun—smooth lookin' outside, but within nothing left but a parcel of longish threads and some withered up seeds. We don't know how to feel for 'em, but we look up to 'em and worship 'em, and love 'em with a sort o' madness.'

"'Why, Rodman; I never dreamed this was in you.'

Patience.

BY REV. HENRY WARD BEECHER.

PATIENCE is the quality of bearing or enduring painful experiences. The habit of patience implies a capacity of enduring trouble for indefinite periods; that is, the capacity of setting our minds against pain and trouble, and wearing them out by a certain quality of our minds.

The first element of patience is suffering. Insensitiveness is not patience. A man may stand where you do and be perfectly cheerful, though you may be filled with pain. Your temperament or your relation to the cause, may be such that what afflicts you does not at all afflict him. And his cheerfulness is not patience, though it seems so to you, and though for you to carry yourself as he does would require great patience. One that is timid and another that is courageous stand together. One by mighty patience is able to endure the strokes of fear; and the other endures them because he does not feel them. The nature of the latter is such that he is not susceptible to fear.

The very first element, therefore, of patience is, that you do care for things, and that you do feel their edge or their point. You can not be patient under any thing that you do not care for, because the element of suffering is indispensable to patience. There are ten thousand things that touch some, and not others, according to the constitution of their mind, their education, their training in every way. To each man patience has the radical element of being something borne, and of costing him courage, forbearance, self-command. And it may mount up from these smaller elements to heroism and magnanimity.

Now, the sufferings under which we are to be patient range from mere bodily pain up through the passions, the affections, the tastes, and the sentiments. And pains may be simple and composite. One may be called, first or last, to suffer in every element of his being. Patience is the capacity of bearing suffering, whatever it may be, so as to count it joyful. A man can not be glad at the same time that he is sorry, and in the same spot; but a man is a composite being, and may be glad in one part of his mind when he is sorry in another part. He may suffer in one faculty while other faculties are in sympathy with things that are joy-inspiring; and the amount of the enjoyment may be far greater than the specialty of the suffering. True patience is the experience of suffering, joined to an ability of enduring it with equanimity, cheerfulness, and contentment. To endure with sadness, with complaints, with struggles, is not patience, or is but a crude kind of patience.

When suffering first comes, it seeks to spring on the mind, or some faculty of the mind, and ride it; and there is power given to a man deliberately to take suffering off from the faculty, and put it under his feet. It may lacerate and tear; but there is power to hold it in its place, and wait, with smiles and contentment, until its office-work is done and it passes away. We admire bodily fortitude. We read of noble soldiers and sailors who, when they were wounded in battle, refused to allow themselves to be strapped to a table, and sat to have a limb amputated, and looked upon the operation, and bore the suffering that it occasioned. We admire a man's capacity to endure suffering thus on a limb, and well we may; but more admirable still is that

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capacity which enables a man, when there is suffering on all his faculties, to hold still, and in other respects let the mind go on orderly and and cheerfully and hopefully.

Patience implies willingness and ability to bear suffering for some good reason. That is to say, it is self-command. It is saying to the stronger parts of a man's mind, when the weaker parts are suffering, "Go to their help." It is saying to a man's conscience, when he is suffering in a lower feeling, "Go to the rescue of that lower feeling; give your strength to it; intone it; hold it up." One faculty thus aids another. A higher feeling inspires a lower. A sentiment lends its strength to a passion. The carnal man finds himself buoyed up by the ministrations of the spiritual man. The more secular element of suffering finds itself wonderfully transformed by the light of some supernal force.

Many men, though they are not afraid of suffering, dodge it, hide from it, coy with it; but he that finds coming upon him suffering of any kind, whether of body or soul, high or low, and knows how, by a feeling, complex or simple, to bravely carry it, and not be imbruted nor adumbrated by it, is the man that exercises patience. To have an ache, a grief, or a sorrow, and endure it, and still keep every part of the mind acting harmoniously and sweetly and victoriously—that is to be patient. It is to know how to *bear*.

It implies, also, an active use of the reason in estimating cares and sorrows and troubles, and bringing to them moral considerations of weight. For no man can, except through intelligence, see the benefits that come from many of our troubles and sorrows and cares. There are times when we feel that to suffer for our friends is an inestimable privilege. There are times when a man is so inspired by the cause in which he is engaged, that he is not affected by troubles. There are times when a man is so conscious of the importance of the object which he is seeking to further, that little annoyances do not trouble him. There are times, for instance, when a man is so absorbed in carrying on a political canvass, that he does not mind the petty forays that take place between parties and sections of parties. There are times when a man, for the sake of maintaining some great truth, will give an amount of work and means that he is unwilling to give to any mere secular object which promises no pecuniary profit. There are times when a man will give up his business, and be conscious that he is losing money, for the sake of supporting some important principle that is struggling in the community, because it is in the minority—saying, "I could not stand and see that principle go to the wall. I fought for it because nobody else did. And I never felt so strong as when every body went against me. I never felt that I was equal to ten men so much as when every body thought that I was less than one."

We have glimpses and fragmentary experiences of this glorying of the higher nature over the infirmities of the lower. Where it becomes a habitual state of the mind, one is not far from being perfect. When a man can let troubles fall upon him thick and fast, morning, noon and night, and triumph over them, he lacks nothing.

True patience, then, always sees, or believes in, some benefit to arise from bearing trouble. In other words, it is moral foresight. It is a moral exchange, suffering being the price that one pays for a greater good to be enjoyed by-and-by. The coin which we give for higher elevations is iron, and hard to circulate; but the product is golden. Suffering is that which turns every thing it touches into gold. It is the philosopher's stone that transmutes to a higher form all that is low and groveling in us.

Deliberate acceptance of suffering, and carrying it by the force of character, is moral magnanimity, which may reach, often, up as high as heroism. And it is in the silent battle-fields, in the obscure and hidden places of the soul's experience, that God looks for his martyrs and heroes. There are now and then heroes that are disclosed and obvious to men; but the time will come when the most illustrious heroes of the world will be sought for among men who took their life in their hand for a great truth or principle, and made themselves exiles on earth, and disrobed themselves of honor, and gave up the ordinary privileges of gaining profit and pleasure, such as most men crave. Men and women who stand in their humble spheres to do great deeds of self-renunciation, and bear suffering for others, with no hope of reward except that which inevitably follows right conduct, are true heroes.

Let us look at some of the spheres of patience.

First, there is the sphere of common daily life, with all its cares and attritions and sufferings. And let me say, at the outset, that many men who are impatient are a great deal more patient than some men who are far more patient than they—if you can untangle the knot! If you take a man that is constitutionally healthy,

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and joyous, and not over-sensitive, and put him through a course of troubles, he scarcely feels them. To him they are nothing, because they strike on a leathery skin, upon a resiliant and buoyant nature, and they bound off from him without causing him to suffer. But if you take another man who has no skin, so that the nerves lie on the outside, and put him in the same situation, every particle of dust causes intense pain. The first man may not speak a hasty word through the long day; but he deserves no credit, because there is no hasty word that he wants to speak. There may not be an hour of the day in which the other does not want to speak a hasty word; and yet he may so far control his impulses as to refrain from speaking hastily; and he is deserving of great credit. The credit of being good-natured depends very much upon whether one is constitutionally hopeful and cheerful, or the opposite. And if a man does not indulge in hasty words, it may be because he has acquired great self-command, or because he is not inclined to indulge in them. And one man may put forth a hundred times the courage and zeal that another does, and yet not succeed in controlling his temper as that other man does. There is many a man that builds fort after fort over against a temptation, without being able to protect himself from it, while his neighbor makes no effort to shield himself from it, and yet is not harmed nor annoyed by it. One is weak and the other is strong. That accounts for the difference of results in the two cases. And the man who puts forth no effort gets all the credit, while the man who puts forth every effort is blamed.

It is very well for a man that is well to give advice to a man that is sick; but not as if the man that is sick were as much worse than himself as he is in more pain. Those who have good qualities must lend them to those who have not. Many a man thinks it strange that his companion is so irritable and impatient. He goes to his business in the morning, and mingles with men, and is engaged in active and varied duties through the day, and at night he comes home, aired and exercised, and his digestion is good, and he has no difficulty in being buoyant and equalized; but his wife remains at home, and has the care of the household, and her strength is over-taxed, and she becomes weary, and under the ten thousand little annoyances that are brought to bear upon her dilapidated system, she gives way to the irritableness and impatience that he complains of. But is it so surprising? Suppose a man should take a babe and lay it down to sleep by the side of a crocodile, in a place that was infested by mosquitoes, and gnats, and sand flies; and suppose when the child, bitten by these insects, and suffering with pain, waked up and began to fret and cry, the crocodile should say, "My dear child, what is the matter? Why are you so irritable? I do not feel any thing. I can keep my patience!" Many men are covered with thick shells, and they are good-natured because nothing hurts them. And such men are not the ones that should be censors of those who suffer acutely at every pore.

It is better that sensitive natures should have grace to rise above suffering. I am not justifying peevishness or complainingness. I am simply showing that oftentimes persons attribute to themselves qualities which they have not, and take robustness and insensitiveness as being signs of patience.

Patience, also, in the individual experience, must be learned in the collisions of man with man. No man can go through the petty conflicts and misunderstandings which come from the dashings upon men by men, without being tried. Some men are disturbed because they are wronged, or think they are, because they are getting less than is their due, or because they are made objects of censoriousness. Envy, jealousy, misrepresentation, injustice, and a thousand other things, bring men into conflict with each other. And some there are that will never have less than the whole of that which is to be made out of their troubles. But there are others who have learned every day to dust the garments of their soul as they do the garments of their body. Men do not usually collect all the dirt they can find on their hat and boots and coat, and save it. They usually brush it off, and sweep it out-of-doors, and are glad to get rid of it. And yet, men are slow to forget the little speeches that have been made about them; the little wrongs that have been done them; the little conflicts that they have had with each other; the little frets and annoyances of life. They ponder over them, and make the most of the suffering that they are able to extract from them.

It is a great thing for a man to be magnanimous. It is a great thing for a man to carry himself with a spiritualized good nature when he is perplexed, picked at, pierced, and wronged. It is a great thing for a man to bear up under suffering and not think of it. I love to see a great nature, not that is insensitive to these things, but that has trained himself so that he goes through them as in winter a man wraps

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his cloak about him and breasts the snow-storm, and goes through it, not thinking of it.

After a little experience, a man may come to that state in which he can shine down these things. Even sensitive men, if they begin early, and have a comprehensive view of the task, and bring real faith and conscientiousness to bear, can almost put it out of the power of any man to hurt them. When a man has the testimony of his conscience that his aims are right, that he means to do the right things, and employ the right instruments, and has confidence that he has the power to maintain himself in the right, he can live beyond the reach of any harm that men can inflict upon him.

When such a man finds himself attacked and censured by his fellow-men, one of two things revolves in his mind. He may not feel certain that he is altogether blameless, and he says, "If I am wrong I am going to right myself. I mean to keep in the true way; but if in my infirmity I have mistaken my path, no one can be more anxious to return to the appointed course than I am." But if, looking back, he feels that he has been right, he asserts his conviction, and goes on as before, sustained by the consciousness of being right, and, instead of being depressed by collisions and censorious remarks, rises above them so that no man can hit him.

The endless disappointments of life, also, are included in the category of which we are speaking. How many unreached things there are, the not having which brings mortification and sorrow! How many needs of the soul are unsupplied! We feel hungry; but what all those conditions are which result in the sensation of hunger no man can tell. We know in general what the sensation of hunger is, and we know that the soul has its hunger; but what is the matter with the soul, what are its yearnings, what are its relations, we can not tell. We carry great heaviness of soul, often, which holds us down. Sometimes we have aspirations, and would fly; but we are like birds that are in cages, and can not fly. Moreover, our plans are over-turned in which we had invested all our best desires. Against all these disappointments of life we are to arm ourselves with patience.

Patience is likewise required in sufferings of affection; in the loss of friends; in the discovery of the unworthiness of friends; in the finding out that our gods are only idols. Concerning all those experiences to which the heart is subject in life, it is more difficult to be patient than it is to be patient in the midst of the conflicts of outward life. Outwardness has something for the eye, for the ear, for the sense; but those afflictions which take the form of thoughts and feelings, which are silent, which seem to crush the stamina by which we want to react against them, and which seem to take out the life of the soul, are afflictions which more than others require space, if they are to be borne. The needs of affection are infinite, and the trials which come through the affections are infinite, and there is a necessity which compels us to carry these things ourselves. The world at large is not made to meddle with the delicacies of love; and in every nature there is a vast realm of silence where, if patience be not found, woe be to it. But if patience does gain victories there, perfection is not far off.

Patience is required, also, in our higher relations. During a conflict between good and evil in society, patience is essential. When men have set their heart on any great and noble cause, nothing is harder to bear than the wrongs that are heaped on that cause, by those who array themselves in opposition to it. Many a man is magnanimous so far as he himself is concerned, who finds it hard to be magnanimous in matters that concern other people. A man can forgive an affront to himself more easily than an affront to his brother, or his child. A man can easily forgive an enemy to himself when he finds it hard to forgive an enemy to justice. But we are called upon to be forgiving whether the offence be committed against us, or against that which is dear to us.

WHAT ONE WOMAN HAS DONE.—In the State of New York there lives to-day a finely-educated and cultivated woman, who, with one fellow-worker of her own sex, has obtained an entire alteration of the laws of the State with regard to the rights of married women to their property and their children, securing to them in great part that justice which is still withheld in most of the States of the Union. But who has ever counted the cost to her of this so great gain to all her sex, or dreamed of the self-renunciations by the way? To be counted "a coarse, obstreperous woman, with whom sensible wives and mothers can have no sympathy," and to be publicly stigmatized by press and pulpit, has been the least of her trials; that her children, to whom she has always been a most exemplary and faithful mother, should have been thus cruelly wounded through her, one may easily understand, has been the bitterest drop in a bitter cup. — *Mrs. Isabella Beecher Hooker.*

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The Plays of Youth in their Hygienic and Educational Import.

Translated from the German of Dr. Med Schreber for The Herald of Health.

BY MADAME MATILDA H. KRIEGE.

THE most important task of the art of healing is to decrease as much as possible the physical and moral ills of humanity, not in single individuals only, but by teaching sanitary rules to a whole generation. In order to assert itself as a science and an art, and to manifest, as such, humanitarian principles, it should not begin at the farthest, viz., to heal disease incurred, but rather it should prevent disease. Its aim should be to turn back the development of the human race in its progress in civilization, into the natural channels, too often forsaken for artificial ones. It ought to aim at diffusing knowledge about human nature in its physical laws and its higher ends, in their moral and spiritual aspects; it ought to correct what ignorance, coarseness, indolence, sensuality, and effeminacy have corrupted.

If our practical statesmen, clergymen, and school-teachers had made the study of human nature the basis of their professional calling, or if, by enlightened physicians, only a tenth part of the amount of study and research expended on the materia medica had been devoted to the development and inculcation of hygienic laws, the condition of civilized nations would certainly be much better.

This view seems to become more and more prevalent among medical men, and to be carried out practically; but while this attitude of medical science is no doubt a very elevated and dignified one, still its practical measures are rather of a negative character. We must claim for it a still higher position, one of a positive character, and it is this: that it should not only lead back human society to fundamental natural laws, which it may have forsaken in passing through the different stages of civilization, but also to lead it on higher, to ennoble generation as it follows generation, so that human nature shall develop more and more those possibilities and capacities for a higher culture, for which Providence has destined the human family. That this has to be adapted to the race, the climate, the products of a country, and the mode of life of a people, is self-evident.

From this point of view, we deem the plays and sports of children of the highest importance for their physical, mental, and moral health, and the general development of their life. Let us look at it more closely. From the time the child has attained the first stage of independence, when his will-power is sufficiently developed and he can exert it on his surroundings, the natural impulse is to use his physical and mental power; he becomes active. The gratification of this power is found and exercised in playing; at the age of from two to seven years, play exclusively occupies the child, if left to his impulses. It may be a quiet play, all alone by himself, or a play in common with other children. Both kinds of play should alternate and fill the time at this age. The child loves play and seeks play, not merely as a passive enjoyment, to be entertained by it, but mostly in order to gratify his desire for activity; and he finds his delight in this pleasurable exertion. From this, it becomes evident how important the choice of playthings is, and the necessity of superintending intelligently the plays of children—a subject which has not yet received due consideration. From the way the child plays, we may infer how he will hereafter act, live, and work. Play-time is the primary school of life.

If the natural craving for activity demands, at a more advanced age, instruction for the expansion of that knowledge which can only be obtained at school, still play should form a pleasing alternation from more serious occupations. There is a truly indispensable necessity for physical and mental recreation. It imparts vigor, and the desire for perseverance in the studies is vastly increased by means of this relaxation.

The importance of the plays of boys and girls visiting schools, in the hygienic and educational aspect, and the necessity of directing the attention of educators to it, we will now take into consideration; and we shall find that not only parents but also teachers have duties to fulfill in this direction. The school should take under its guardianship those sports which are to be played in common in the open air. That it is the duty of the school to provide for these, is understood in its mission, which is to lift the child to a higher plane of development, to fit him for his duties in life as a cultivated human being. But as human nature can not be divided into physical and mental, it follows that where the mind is to be developed the body ought to be developed likewise, as the state of

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the mind depends greatly on the state of the body. Inasmuch as the plays and sports of youth serve not merely as means to develop and strengthen the body, but are the means of mental culture likewise, as we shall presently show, it is eminently proper that they should be made part of school education.

If the social intercourse of man with his equals is the richest source of intellectual nourishment, the natural means of mental vivification and purification; if it serves to bring out virtues and to ennoble and elevate man, to the child social intercourse with those of its own age is even more absolutely needful. Only among its peers the child feels perfectly at home and happy. By this intercourse, and by emulation, every spark of mental originality is awakened, and life is kindled by life, as flame kindles flame. Many a natural talent slumbering in the child as a germ, which would otherwise be stifled and never blossom, is developed by this genial atmosphere, which we may liken to the warm breezes of spring. The charm of play, which is so consonant to the child's natural cravings, lies in this vivifying influence. Joyousness, wit, the powers of invention, determination, courage, and daring, derive their nourishment from this source. The love of imitation, so natural to children, is more alive than ever in play; the portals of life are open to all kinds of influences, and we must, therefore, direct the attention to the importance of superintending those plays that are played in common, in order to keep out all evil influences and to ennoble them.

Another practical advantage of plays in company is, that the self-will of one individual is checked by the self-assertion of another. The child learns to bring his own will into harmony with that of others. If the supervising authority exercises strict justice, without interfering with individual rights and independence, sharp antagonistic qualities will imperceptibly be brought into harmony, and all roughness smoothed—a great gain for life.

This circumscribing of self-assertion checks obstinacy and arrogance, and cures irritability, peevishness, and sickly sentimentalism. It will be easier for a person of ability and good sense to keep every thing in working order with many children, than even to manage a single child. But the greatest care and watchfulness have to be exercised to prevent a single poisonous drop of injustice, of insult, of satire and sneering, of envy and joy at the grief of others from creeping into this joyous circle. Joy and merriment should reign supreme, and jokes and raillery should be within the limits of perfect harmlessness. Through steadfastness and right management of their superior, the children will soon gain so much sense of propriety and justice that he will come to be merely a passive spectator, but the sense of true honor in right conduct must be kept alive. Only activity can develop and ennoble the will-power and feeling and form character, on which rests the moral and practical value of man in social life. A character can only be formed, and grow firm and strong by activity; but not in ordinary school life, which consists mostly of receptivity on the part of the child. The child has not yet entered upon the stern, toiling, active life of the man, but he should be prepared and fitted for it, in order to be able to fulfill the duties that will hereafter devolve upon him. The plays of youth are, therefore, the only sphere in which the free and independent unfolding of life and actions of the child can be manifested. These common plays of youth have the great advantage that each more or less forgets himself, and lives and works for a common cause; they awaken public spirit and stimulate courage, resolution, creative and inventive power, physical and mental vigor and adroitness, to be used for the common good. The more gifted child helps the less gifted; the one elevates the other, and in fact all are elevated together.

Of all this, the life in the family offers nearly nothing, and the life on the school-benches even less; and still it ought to be the task of the school, at least in part, to prepare youth for life in the world, for capability and worth as a citizen.

We have not yet mentioned the hygienic importance of the sports of youth, but this is so evident that it scarcely needs be mentioned. A romp in the open air gives, by far, more vigor, dexterity, and joy, inures better to the changes of seasons and climate, than a stiff family promenade. But, alas! our age curtails this life-giving element more and more for our children; it may be through the increasing requirements of the school, or it may be by the misunderstood requirements of good behavior and gentility; but the more this element is disregarded, the more must we advocate the urgent necessity of these plays. The children in our large cities, where population is so rapidly increasing, are the worst off. Neither school-teachers nor parents seem to care. The children themselves would find the remedy, if they could. But not only are the school authorities and the family indifferent, they act in opposition; the former by absorbing almost all the time of the child, the lat-

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ter by destroying the child-like simplicity by foolish notions of propriety, or else through groundless fears or effeminacy. The Common Council, instead of providing suitable playgrounds for children, begrudge the room it takes, and think, in using it, of every thing else but the children. If a few children sometimes assemble in an alley or a garden, and how seldom have they a chance, they have nothing provided for play, they have to do it stealthily, and are almost regarded as delinquents; therefore, a great many beautiful plays we enjoyed in our generation have almost wholly disappeared from juvenile circles.

Gymnastics and gymnasiums are certainly an essential element in our civilization. We have only to regret that they are not more widely spread, and that where they do exist they are not frequented and patronised enough. But if even this were the case, they would not be sufficient to replace the commons and playgrounds for children, because these are a necessity for their whole harmonious development. I have said before that the play as such, in giving an opportunity for a life in community and for acting out within certain limits the innate individual capabilities, has too high a value to be disregarded.

If people were once convinced of the great importance of this matter, a suitable place could easily be found; every open space or square, or unused land on the outskirts of towns might be adapted to the purpose. A community certainly would not hesitate to provide the means that the necessary apparatus and fitting out of the place might require.

But, in order that the plays really fulfill the intended uses, it would not be sufficient merely to provide the necessary grounds for these games, as we see it done in England; the grounds and games must be properly and systematically arranged and superintended. The parents of all classes of society must be able to have perfect confidence in the judicious and beneficent management if these methods should come into general use and favor, and thus the desired results be obtained. Of course, we do not understand by this a surveillance by the police, but rather a fatherly government, in order to prevent abuse and rudeness, and that the plays of youth may exert a truly ennobling educational influence, as it was once done in the ancient Grecian republics.

For this position, a man would have to be chosen who combined with general culture a love for and a knowledge of athletic sports, and the laws of physical development; he would have to be responsible for order and obedience to the regulations of the play-ground; the utensils and apparatus would have to be under his care, and it would be necessary that his residence should be located on the grounds. A like provision should be made for the girls; the play-grounds might be adjoining, and superintended by a lady. Of course, their plays would naturally be of a different character.

The surveillance would have to be exercised in such a manner that the utmost freedom consistent with the rights of each individual, and whole sections would be sacredly guarded, as well as justice, order, and joyous liberty maintained.

To the school authorities, the higher control and the introduction of truly ennobling games might be intrusted, and this control might be exercised without infringement on the natural creative spontaneity and joyousness of the youthful mind. By such arrangements the fears of demoralisation that parents might have in letting their children take part in these public plays would have no basis; on the contrary, these would do away with a great deal of demoralization and temptation to which the young are now exposed, if left to themselves. The different school-classes could have their regular days, and appointed hours and times might be set apart for general participation of all those children who are at leisure.

The harmonious, vigorous development of the youthful organism lays the foundation for the health and strength of the whole subsequent life. It is the germ from which blossoms and fruits are to sprout, the quality of which will depend upon this germ. Happiness or misery will spring from the course now taken. In order to develop the child physically, mentally, and morally it must, in addition to being instructed in school, also have scope to play. The house, the family can not offer in this respect what the school, what a community might offer.

The thorough culture and education of the young is the vital question of the life of a community, of a State. Only the harmonious and vigorously developed man can fully do his life-work, for himself and for the world; he only can be a useful and noble citizen of the State.

These preliminary conditions of the whole subsequent life which we have just now taken into consideration are of vast importance, and ought to enlist the coöperation of all parents in the land who care for the well-being of their children, and of all the school and State authorities. May these suggestions not have been made in vain.

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A New Song of the Shirt.

BY J. IVES PEASE.

WITH lips all bloodless and white,
With clothes all spotless and clean,
A maiden toiled, far into the night,
Tending a sewing machine.
Click click, click click, click click!
The glittering needle flies;
Its point as sharp as a serpent's fangs,
Its eye like a serpent's eyes.
Her thoughts upon the rack,
Her body bowed and lean,
She moaned, with an aching heart and back,
This moan of the sewing machine.

Flounce and ruffle and frill,
'Broidery and braidery fine,
With the old chain-stitch (chaining Poor to Rich),
That Mrs. Mammon may shine.
Tick tick, tick tick, tick tick!
'T is for *her* fine garments, and proud;
For *me* 't is only this death-watch tick,
The toiler's doom, and a shroud;
And I care not how soon life's thread
Snaps in the thankless strife.
I am dying, not for the want of bread,
But for want of a *livable* life!

She feasts in her mansion grand,
While I on husks must dine;
A ring of diamonds bedecks her hand,
A ring of scorpions mine!
For I 'm "only a sewing girl,"
While she weds a millionaire;
Her round of "duties" life's giddy whirl
Mine work, and want, and prayer.
"Only a poor sewing girl!"
So stabs the sarcasm keen;
O heart, "hearth and home" are slow to come,
Wooed by the sewing machine!

My hands were than hers more fair;
My cheeks, without paint, as red;
As loving my heart, as "regal" my "air,"
For I was tenderly bred.

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But riches took wings, and want
Brought all that want could bring;
And gold was offered, with "friendly" vaunt,
But never the plain gold ring!
Oh, 't is hard to be poor and brave,
And toil through a life so mean;
While the *pave* brings leisure and life's pleasure,
Want brings the sewing machine!

I know that in yonder mill,
Where the lights still blaze and shine,
An hundred "workers," more ghastly still,
Slave that old Mammon may dine.
While, hissing, and coil on coil
The fire fiend throbs and beats,
'Til a tangled skein of nerves and brain
Are woven into winding sheets.
Next week the "grand ball" will be given;
Will these makers of wealth be there?
Nor music nor light make glad their night
Who *created* the millionaire!

Alas! and is this the sum
Of all for which life was given?
Is this "the kingdom" we pray "may come
On earth, as it is in Heaven;"
The "golden rule;" the "greatest good,"
Foretold by bards and sages;
The perfect "human brotherhood,"
With wealth, want, woe, and—wages?"
For the few, broad lands and gold;
For the many, heart and soul starvation;
With our "five feet two" of churchyard mold.
And *is* this civilization?

O Pagans, in all but creeds,
Not thus Confucius taught!
O Christians, in all but deeds,
Not thus the great Master wrought.
Better your well-trained dog
For "an airing" daily driven,
Than a toiling hind, with that curse, a mind,
And a very far off Heaven!
Better the heathen's life,
With a dance on the daisied green,
Than this toiling, torturing, deadly strife
Of a mere flesh-and-blood "machine."

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But why talk of heathen lands,
When the heathen are at our door;
The cannibal ghoul that embroils your soul;
The out-caste Pariah poor;
The idolatrous worship of gold
In every hideous shape;
Daughters to legal slavery sold—
And flesh and blood go cheap!—
A harem of other men's wives,
While "charity" cloaks the chicanery?
Oh God! that such should be men's lives,
While Mammon drives the machinery!

A Psychological Glance at the Woman Question.

BY O. B. FROTHINGHAM.

THE woman question, as we have fallen into the habit of calling the problem of women's place in modern society, presents various distinct phases for consideration. The most prominent and most important of these phases is suggested by the necessity that is now laid on women to support themselves by their own industry. The next comes up as we regard women in the light of property-holders, living under laws that are made for the protection of property. The relation that women sustain to the laws that regulate their social and civil condition, raises another set of questions touching their claim to have a voice in the making of such laws. The advocates of female suffrage start another inquiry still, namely, whether women, as citizens, should not share with men the duties and responsibilities of administering the government of the country. Women have yet another order of champions, who contend that, as intelligent beings, they should be permitted the same generous culture of all their faculties that is accorded to the other sex. These are all, in a measure, distinct questions, though very closely interlinked. They may be separately discussed; their relative importance is very differently estimated by the persons debating them, and one or more of the positions involved in them may be held by champions who are indifferent and perhaps even hostile to the others.

But underneath them all, and directly affecting them all, lies a question of the gravest moment, which thus far has not received the attention it demands; which has not been thoroughly discussed; which some are unwilling to disturb because of its difficulty or delicacy; which some, honestly perhaps, regard as irrelevant or premature, and which not a few appear to think may be pushed unceremoniously aside; and that is the *physiological question*. Physicians have spoken on it. Physiologists have skirmished about it. Mrs. Farnham wrote a book in which it occupied a very conspicuous place. Dr. Thomas Laycock, in his work entitled "Mind and Brain," devotes to it a brief but pregnant chapter, beside throwing out many a casual suggestion bearing on it. But in the general discussions that occupy and agitate the public, this feature has been less prominent than it ought to be.

It can hardly be denied, it never, we think, has been denied, that women, as such, are constituted for purposes of maternity and the continuance of mankind. They were formed for this at the beginning. The first woman was provided with organs for this purpose, and every woman since has possessed the same. Whether they be used or not is aside from the point; in any case they may be used; their use is contemplated. They are given, and along with them is given all that their possession implies. Unmarried women are nevertheless, in all respects, women. Widows and virgins, women of leisure and of idleness, plain women, unattractive women, repulsive women, are still women. Dr. Napheys, in his pleasant and instructive little book on "The Physical Life of Woman," says: "Man is man for a longer time than woman is woman.

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With him it is a life-time matter; with her it is but a score of years or so. Her child-bearing period is less than half her life." But this half of life is the most important half; it covers the period of education, discipline, the formation of habits, the maturing of dispositions. If, after the so-called "change of life," she exhibits masculine tendencies and traits, as Dr. Napheys affirms, it is then too late for her to become any thing but essentially a woman.

There seems to be a disposition to regard the maternal function as an incidental matter, that may require time, interrupt occupation for periods longer or shorter, disarrange the continuity of effort and experience, for a few years perhaps monopolize interest and feeling to a considerable extent, but nothing more. Really, however, its significance is much deeper and more radical than that. This single fact of organization strikes through and through the feminine constitution, whether it be developed to all its consequences or not. The formation of woman for purposes of offspring brings with it other provisions for maintaining and rearing offspring which, one after another, subsidize her whole being, and bestow on the sex mental and moral characteristics that are general, and it would seem ineffaceable. The whole woman bears the evident marks of this single leading intention. This is precisely what might be expected; for as the successful continuation of the race is the grandest function of the race, the noblest elements must conspire in it to make it perfect. To this point in woman's constitution every thing therefore converges, and from this point every thing diverges.

On the woman devolves the duty of supplying with material of nutrition from her own body the primordial molecule, which is the germ of a living being. To this end she is furnished with a distinct economy which the male of no animal possesses. She must provide food, warmth, protection for the undeveloped creature, during a space of nine months. There is no knowing when she may be called to do this, and there the arrangement stands, unused though it may be for years. The duty must be continued after the new being has been produced, only with more various, elaborate, and complicated apparatus. The woman is organized, every woman is organized for the long, difficult, exhausting work of rearing all the offspring that are born to her. For this grandest of human tasks there is a rally from all parts of her system. Protection, food, and warmth she must furnish, and by means peculiar to herself. There is a special economy for supplying nutriment, of which the man is entirely destitute, and which she must carefully guard. Her bosom is the warm, soft pillow for the child to lie on. Her wide lap is necessary for its support. It must be carried gently, firmly, and patiently; she is formed for this, too, the arms making an easy cradle, the shoulders a pleasant resting place for the head.

Her task furthermore requires peculiar dispositions, and these she has. The females of all animals have a tender sympathy, which extends itself to the young even of other females, and establishes almost an identity of claim with their own. This instinctive, passionate, devoted, inextinguishable love, pledges every endeavor to preserve infant life. The love of women is for the tender, the defenseless, especially for the young who are unprotected. It is a necessary endowment for her to whom infant life is committed. Necessary, too, for the same end is the pity that never overlooks a pain, the solicitude that watches every chance for good or ill, the patience that never tires, the self-consecration that postpones luxury, ease, comfort, pleasure, satisfaction, advantage, every thing in the world, to the physical well-being of the helpless one. For this purpose woman is all heart, feeling, sentiment, sensibility; she is a child with the child; she is imaginative, fanciful, credulous, superstitious, because all these ingredients of delicious foolishness go to create the atmosphere in which the developing creature lives and moves and has its being. The sweetness of her voice, the tenderness of her eyes, the radiant illuminations of her countenance, all minister to the same end of encompassing her offspring with genial influences, and warming a soul into life. Nature bestows on her these gifts for these uses, and the uses instantly begin to develop the gifts. They come when wanted. Women, with very rare exceptions, even uncomely and otherwise unlovely women, are angels with their babies; they are angels for the sake of the babies; angels through their babies. Babe and angel come and go together. Woman's infirmities are here a strength, her egotisms, her intensity of personal feeling, her jealousies, her variability, caprice and fascinating pettiness of temper assist her materially in the task of living for and in the tiny being who, but for her, would die.

If we analyze closely the qualities that are deemed characteristic of women, and in mature women are regarded as least admirable, we find them too singularly adapted to the great office which may never in the individual case be discharged, but which must in every case be provided for. The excessive fondness for details, the passion for privacies, the love of gossip, in-

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quisitiveness, the disposition to advise, sometimes to interfere, even, if the word is not too harsh, to meddle, the over-caution, the timidity, the dread of innovation or change, the conservative instinct running to tenacity, the confidence in feeling as a guide superior to reason—however annoying in childless, widowed, or matronly women—come into play as most important auxiliaries to the noble feminine work of guarding from danger and rearing to beauty the young immortal whose destiny is committed wholly to feminine care. The infant must have the benefit of the utmost minuteness of thoughtful consideration, and some woman must show it—a nurse, if the mother fails.

The task requires a peculiar intellectual constitution, a special kind of sagacity, perception, insight, forethought, an intuitive knowledge of needs, a swift inventiveness, a sympathetic intelligence of dispositions and moods. The mother's mind must be exceedingly active, alert, and fertile in expediencies, self-reliant, prompt, and concrete. Available thoughts are better for her purposes than accurate, just, or logical thoughts. The speculative reason she can do without. Grand ideas she has little use for. Her mind is needed in her fingers' ends. In this high calling of hers abstract theories have the smallest conceivable value. Speculation on deep problems would lead her away from the lines of her daily interest. Even the stirring affairs of the outward world, civil agitations, public events, concern her little. Her capacity in directing and managing the business of her own inward world is immense, because that same inward world has preëminent claims on her attention. Knowledge she may well have, if she can get it; but in default of knowledge, a saving common sense is hers by the necessities of her situation, and that is vastly more useful in most cases than any knowledge she would be likely to obtain from books. That common sense is a feminine attribute we all know; but we seldom suspect its ultimate association with the function of maternity, which, in appointing the distinctively feminine occupation, amply qualifies the feminine nature to discharge it.

It is observed that the females of all animals possess what we may call architectural instincts, that teach them where they may suitably build their homes, and after what fashion they may best construct them. In these arts of construction and decoration, the females of the lower animals display an exquisite artfulness. It devolves on them to make the home safe, comfortable, pleasant, handsome, as it should be. As the orders of being ascend, this species of skill becomes more elaborate and wonderful, its range much wider, its resources far more abundant, its designs vaster and nobler. When the nest is a chamber, or a set of chambers, a house, and a woman is the presiding genius of it, talent for arrangement, skill in combination, taste in decoration, perception of the desirable and the beautiful shows itself in a hundred graceful ways. Women have an extraordinary, it would seem an instinctive, at all events, an easily acquired knowledge of all textile fabrics, and a natural facility for making them into garments. Their much-abused love of ornament and dress may be traced to the primeval demand that may be made on any woman to beautify a home and render it in all respects attractive to young occupants, who, in this way, are kept under sweet influences and educated in the perception of loveliness. These delicious infirmities, as so many think them, this passion for pretty things, for elegance and luxury, are an important part of woman's furniture. Women are not women without them. They may be very expensive, when expense can be afforded; but they are possessed by women who can not meet expense. They lead idle women into follies and vices, as any other good gifts may do; but, for their original purposes, they can no more be dispensed with, than can the softness of the bosom or the suppleness of the frame.

This providential call to maternity affects even the religious nature of woman. Hers is the religion of the heart, the religion of affection, domestic religion, simple, confiding, conservative, personal. She neither asks questions nor harbors doubt; but believes, hopes, loves, and trusts. She must have a personal God, a special Providence, a real Heaven—divine things that she can lay hold on, press to her bosom, and warm herself by. Both thought and feeling are needed all the time where she is. She can not afford to send them away from her post of duty in quest of celestial things. That would weaken her. Celestial things must come to her that she may fold them about her, may bask in their atmosphere, may live in their sunshine, and enrich her whole soul with their charm. Her offspring needs this, and she instinctively provides it in greater or less measure, according to her ability.

Such, briefly intimated, seem to be organic accompaniments of the feminine form and function. Not less than this, but rather a good deal more is involved in the sacred commission to bring forth and rear, to nurture and protect the future man.

In view of all this, it sounds strangely to

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hear people say that the difference between men and women is owing to a difference of circumstances or of education, and might be abolished or outgrown under new systems of mental and social training. Mr. Mill, speaking of the actual relation in which woman stands to man, says: "It arose simply from the fact that from the very earliest twilight of human society, every woman (owing to the value attached to her by men, combined with her inferiority in muscular strength) was found in a state of bondage to some man."

Further on he writes: "Standing on the ground of common sense and the constitution of the human mind, I deny that any one knows or can know the nature of the two sexes, as long as they have only been seen in their present relation to one another." And toward the end of his book on the "Subjection of Women," he throws out the idea that with new laws, a changed social condition, readjusted economical, industrial, and educational arrangements, radical alterations may be expected in the mental and moral qualities of the sex. He instances particularly "the passion for personal beauty and dress and display," and dwells on anticipated modifications in the tone of her affections, manward and God-ward.

But the conduct of men, however brutal, is surely not responsible for the structure of the feminine form, nor for the peculiarity of the feminine function, nor for the special provisions made in her physical constitution for that function's discharge, nor for the mental and moral characteristics that are needed to render its discharge complete. So much must be taken for granted. Women, in consequence of it, may have been made victims of vulgar or brutal men; but this is all antecedent to such vulgarity and brutality, and will probably continue as it is after the vulgarity and brutality shall have passed away. Men did not make women what they are, and can not make them other than they are. If they could, the race would probably suffer infinitely more than it would gain.

To dogmatize about the "sphere" of woman is of course premature. To limit her capacity, curtail her privileges, refuse her desires, reject her claims, is the extreme of presumption. Her title to all the education, culture, occupation, development, it may be possible for her to receive, and profit by, should be frankly recognized by every honest man. Let her civil rights and her position in the State be candidly considered. But none of these issues can be wisely debated, so long as it is forgotten what she physiologically is. And nothing can be wisely done in her behalf, if this point is not consulted. Every question respecting women is not open. Some things are fixed, and must be taken for granted. Precisely what they are, and how many, it is for the physiologist to decide. He must have a voice potential in the debate on woman's general and technical education, the pursuits she may follow, the labors she may undertake, the fatigues and excitements she may undergo, her qualification for civil positions, the probable effect on her of entanglement in national affairs. How much more than she is she may become, how much happier and more useful than she is she may be, how much and in what directions she may expand, it is of the deepest interest to consider. But *what* she is, must be regarded as established. Her form suggests it; her organization reveals it; her principal function explains it; her mental and moral constitution bears out the interpretation of her organism. There is a sure basis of fact to build on; and good building should, we are persuaded, rise from this basis, and not from any different foundation laid in theory or general philosophy. The reformers may all be right, their schemes wise, their efforts salutary. But they will prove themselves to be so, we are convinced, not by their efficacy in making women different from what they are and always have been, but in their tendency to make them richer, stronger, and happier as they are and always have been. Woman's great function may be more nobly discharged and may more ennoble her, but her first function will still be her last and best. The time will no doubt come when she will more honor it and be more honored in it, when she will bring to it richer resources of culture and feeling; but the time will probably never come, when it will hold a less prominent place in her thoughts or exert a less controlling influence on her mental and moral constitution. Enlarge and enlighten the rational being as we may—unfold capacities, develop tastes, devise utilities, the genius for teaching, molding, educating childhood, will be the divinest attribute in women. In every beautiful form, in forms more and more varied possibly, motherliness will be the feminine characteristic.

THE PROBLEM SOLVED—A young lady riding in the rear car of a long train, remarked to her companion that the train seemed to move very slowly; and a moment after, added with almost Partingtonian unconsciousness, "but perhaps it is because w are in the last car!"

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"Ears, but they Hear Not."

BY REV. CHARLES H. BRIGHAM.

WHAT more provoking malady than deafness afflicts the race of man? It is not so bad to the sufferer as blindness. If we were to choose, we should probably allow the ear to be stopped, before we would allow the leg to be amputated or the nose to be cut off. But to those who wait upon the sufferer there is no malady more vexatious than the ear which refuses to hear. One never knows exactly what to say to a deaf person, or in what way to say it. You may scream in his ear until you are hoarse and the chances are that he misapprehends your word. Intercourse with him is a perpetual trial; and when Job says to his wretched comforters, "Doth not the ear try words," it is quite possible that one of these tormentors was hard of hearing. A deaf person in assembly is not only uncomfortable himself, but makes the rest uncomfortable, in the fear that he may misunderstand what they say to one another or suppose that they are talking about him. They can not read his thoughts, and he is as unwelcome as a parson in a dancing hall under the Puritan regime. He is himself too continually in doubt, if he is not violating proprieties, by speaking in unnatural tones or where he ought to be silent. A venerable divine, whom we once knew, very careful of the decencies of the sacred place, used to amaze his congregation, after he became deaf, by his whispers to his colleague in the pulpit, which could be heard all over the church. The guests of the hospitable Wardle, as the veracious story of Pickwick tells, were rather scandalized at the free remarks of his dignified old mother, who said to all the company what was meant for a single ear. And the Speaker of the Massachusetts House of Representatives knew to his sorrow the plague of this evil, in his attempts to call the excellent George Bradburn to order. The closed ear of that free critic was insensible to the official mandate; and he always mistook the signs for encouragement.

Without going so far as a recent writer in an American magazine, who claims that the shape of the external ear is an indication of character, and that large and well-formed ears, which sit neatly on the head, are a sure sign of pecuniary thrift and future wealth to their owner, we may still affirm that the external ear is not the least important organ of the head of man. On the animals, indeed, it is more conspicuous. It characterizes more than any other organ, that patient beast to which Issachar was likened, and which, alone of beasts in the Hebrew story, was privileged to utter a prophetic word. The ear of the horse, perpetually in motion, marks his attention, his temper, and his intelligence. That great flapping fold on the cheek of the elephant redeems the ugliness of his trunk and tusks. The beauty of the King Charles spaniel is mostly in its soft silky ears. These, too, make a convenient handle for the rabbit's head. The external ear is relatively less in man than in any of the lower animals, and indeed is often made invisible by his fashions or fancies. The Southern fire-eater, of pure blood, used to hide his ears under his long flowing locks; and many can remember when the hair of matrons and virgins was smoothed upon the ears as faithfully as upon the scalp or temples. In a favorite style of the last generation, the mark of what was once a disgraceful punishment was obliterated, and one might find it a convenience to have his ears shaved close, or pinned back. And who can tell, since fashion has permitted mutilation of the feet to make them graceful, in the case of a Chicago belle, that fashion will not suggest a neat and artistic trimming of the ear as part of the barber's duty. There is no more intrinsic absurdity in this preparation of the ears of men than in the trimming of the ears of terriers and bull dogs. And if the fashion should spread as rapidly as other fashions which mutilate the human frame, it may become by and by a sign of vulgarity, not to say of sin, to appear with "uncircumcised ears." That phrase, indeed, is Scriptural, and is used by Jeremy of the obstinate children of Benjamin.

At present, the external ear does duty rather in the exhibition of ornaments, in carrying the gold and precious stone, the pearl and diamond, which civilized barbarism parades as signs of beauty. Probably no preaching and no ridicule will hinder that *boring* of the ear, which is one of the most ancient as it is one of the most widespread of all human customs. The North American Indians, the Malays, the Fejee Islanders, the African negroes, bore their ears as persistently as the fine ladies of Paris or Boston. This is a custom that barbarian and Scythian

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bond and free, have in common. It is provided for, too, in the Mosaic law, only there it is the special sign of a slave's bond to his master. A slave that does not care to go free, and is quite content to serve his lord for ever, may manifest this willingness by submitting to have his ear pierced by an awl, and nailed to the door-post. Even that bad meaning of a hole in the ear will not make it disgraceful, so long as it offers such a convenient suspension for jewelry. Earrings may "go out" for a little time, but they come back very soon, and they will resist the eloquence of modern ascetics as they resisted Chrysostom in the Imperial pulpit of the fourth century. If fashion so orders, the delicate cartilage will be loaded with heavy weights, and the ear drawn out into torment. There is no bound to the endurance of a woman, where fashion is in question, and she will relinquish her "rights," rather than neglect or sacrifice her ornaments. Perhaps this slight mutilation of the ear is worse, as a matter of taste, than as a sin against the frame. There are no authenticated instances of loss of life or of health from the boring of the ear, or of any changes in the nervous system. It may be, that like tobacco and alcohol, as Mr. John Fiske argues, earrings have actual sanitary value, as good as that of Perkins' Metallic Tractors.

The external ear, in man, from its fixed rigidity, is not specially expressive. It was proposed, some years since by a reformer, who insisted that every thing had use and ought to find its use, to train the ears to move, since human ears as much as the ears of beasts had muscles of motion. Why should these muscles remain inert, more than the muscles of the feet or the fingers? Ought not these to be included in a comprehensive "kinesipathy?" Ought not the light gymnastics of the parlor and schoolroom, to exercise the ears as much as the wrists or the neck? Would not diseases of the ear be hindered, if its doors were allowed to swing on their hinges, so that they might rule the temperature of the house and its passages? As the moving eyelids protect the eyes, why should not the moving earlids also protect the ears? That the ear could be educated into voluntary motion there is no doubt; and instances occasionally appear of those who can move their ears forward and backward. Some savage races have the faculty. The good to be gained, however, by this kind of gymnastic, is not sufficient to encourage it as a branch of physical training, and there is no real foundation for the notion that it will help to guard the inner ear. The eyelid and the outer ear have very different functions in relation to the inner sense. And the ear, standing firm in its place, protects the hearing as effectually as if it were always in motion, like the ear of a deer or a horse. It might be well, certainly, to try the experiment on a larger scale, and ascertain if hereditary deafness may not be avoided by motion of the outer ear, and the flexibility of the muscle be transmitted to the finer organ within. The ductility of the ear is frequently tested by the passion of impatient teachers, and flexible ears would be spared some of the pain of this pulling.

The soul of the ear is not in its outer sign and door, but in its labyrinth, as curious and as puzzling as the labyrinth of Ariadne. No bodily organ has more of mystery in it than this hearing ear, which catches and holds such delicate vibrations, and makes the pulses of the air the vehicle of such varied thought and emotion. The ear is the finest medium for the communication of thought and feeling, and where this is closed no other medium can fully take its place. You may try to look your thought into the face of a deaf man, or to figure it by gesture, but you never can quite succeed. That ethereal art, too, which more than any other, is in the picture of spiritual joy and the rapture of the saints, appeals to the ear first and chiefly. Only to those who hear has music genuine meaning. There have, indeed, been deaf composers; the greatest work of Beethoven was brought out after his ear had ceased to note the harmonies of viol and flute. But no man ever composed music who was *born* deaf, or who had not learned to find it by his quick and sensitive ear. The compositions of the deaf masters are reminiscences of their former experience, and come out of the stores which the ear has gathered in its treasure-house. The Ninth Symphony is the consummate flower of all the harmonies which the ear of the great composer had caught in the storm and stress of his troubled and aspiring life. Some have, or pretend to have, the capacity of enjoying music merely by reading its score. The printed page gives them its melody, sung to the soul through the eye. The late Dr. Marsh, of Burlington, Vt., had this faculty. Yet it will be hard to convince a lover of the divine art that the printed score can ever become the substitute for the tones and cadences, soft and loud, swift and slow, deep and high, jubilant and wailing, which enter at the waiting ear and linger in its chambers. When hearing ceases, the soul of music is left to slumber.

And even where the ear has no need of musical sounds, and no keenness in detecting them or separating them from other voices, even with

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unmusical tribes who mistake harsh and discordant clanging for harmony, the ear is still a sentinel, more vigilant and with longer range than any other, watchful in the darkness, catching what is behind as well as what is before, and judging the distance. The sense of smell only tells of one class of dangers. The ear guards against risks of another kind, hears the storm coming in the night, or the burglar's foot under the window. An Indian in the forest knows far off the tread of his pursuer, by the rustle of the leaves, as surely as if he had traced footsteps upon the snow. The ear of man is not so quick as that of the animals which he owns, and his dog warns him of what he fails to hear; yet there is a marvelous power in the human ear to note and distinguish the faintest sounds. The ear of the young maiden, expecting her lover, announces his presence while his foot is only "a raspin on the scraper." The ear of the sick patient in his closed room, tells him when the physician is in the hall below; and the ear of the physician in turn, opens to the patient the secrets of his malady and finds the way of the blood in the air-cells and arteries, where no eye can reach it. An open ear is always alert, and must receive what nature and the world have to say in their voices. Sleep may shut it, but there is no voluntary shutting. The eye can refuse to see while the mind is still active, but the ear can not refuse to hear. The effect which we make not to hear makes the hearing sharper. Sometimes, certainly, mental absorption will shut the ears against sounds, as in the case of a New York editor, writing in the din of wheels and hoofs and machinery, or of one who is playing chess in a thunder-storm. This absorption is exceptional, and usually the ear is ready to hear any vibration in the air, when the mind is awake.

The loss of hearing in the larger number of instances, is the most troublesome infirmity of age. One who has good glasses can read, even if the lenses of the eye flatten. Dull hearing is a more annoying defect and not so easily remedied. Deafness warns us that we are growing old, and rebukes the delusion which it is so pleasant to cherish, that at seventy we can have still the pleasures of youth. It hinders and mortifies piety. The devout worshipper seems to himself to be almost a hypocrite, in going steadily to the House of God, where he hears nothing, or hears so little that all is confused in his mind. It is vexatious, too, that he pays so much money for prayer and preaching that only mock him, and vainly call upon him. The gospel trumpet blows an inaudible voice, except as he carries a companion trumpet to catch its blast. Deafness comes to many just at the time when it is most inconvenient, when they have lost interest in other pleasures, but would profit the more by the preacher's word. It will not do in most cases to send a tube from the pulpit desk to the ear of the deaf hearer in the pews, as is done in a church in Detroit. In large churches such a privilege would weave a fabric of pipes as close as a spider's web. Nor will the custom be brought back of the Puritan time, of ranging the deaf elders close under the preacher's desk, that they may come better under the droppings of the sanctuary. When hearing is gone, it will be time now for fathers and mothers in Israel sadly to forsake the pleasant assemblies of the church, and confine themselves to private study and prayer. No preacher can meet the demand of those who can not hear him, whatever doctrine he may preach. He may be conservative or radical, high or low, but his word will return to him void from such an audience.

We need not here discuss the various diseases to which the ear is liable, diseases of the tympanum, the tubes, the labyrinth, and the auditory nerve. The art of medicine cares for these, and those who are afflicted will do well to consult some expert, who has made them his special study. Diseases of the ear are apt to be obstinate, and in no branch of therapeutics is more money fruitlessly spent. It is easier to prevent them than to cure them. We would only offer some practical hints of the proper care for the organ of hearing, how it may be saved from decay and protected from injury; may keep its sensitiveness, and may do all its natural work:

1. In the first place, and as a general rule, it should be left *as free as possible*, left open to all sounds, not in any way covered or confined, whether by wrappers or bands, or folds of hair, natural or artificial. The ear should be just as free as the eye or the tongue, notwithstanding its quiet. Any thing which impedes the free entrance of the pulses of sound into its channel injures its strength and destroys its function. A healthy ear, in ordinary cases, needs not to be protected by any thing more than its natural secretions. At the present time, indeed, there is less need of this advice, since the style of the headdress both for woman and man, allows the ear to be seen in the street as well as in the house, and those bands of cane and bone, which once compressed the ear and cheek, have dropped from the fashion. The top-knots which load the skull have at least this in their favor, that they release the lower parts of the head from bondage, and allow sound to come where the

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quivering air chooses to send it. A free ear, other things being equal, will be a musical ear, able to distinguish tones and shades. There was absurdity in the style of choirs in the last generation, singing with all their might, while the ears of half of them were covered. What could a poor leader do with such a company?

2. But sometimes even natural secretions become a clog and a hindrance. And a second rule is, to free the ear from accumulations which may collect in the orifice, by *keeping it clean within and without.* The ear is especially liable to take and hold the floating dust of the air, and all the more may this come in, that the entrance is left open. Cold water for this organ has sovereign virtue, and it needs to be washed as often as any part of the body. An occasional injection from the syringe will do no harm, though too much of this is apt to weaken the sensitiveness of the organ. We do not easily see our own ears, and can not know what defilement has settled upon them; yet it is well to take for granted every morning that the ear needs its bath and its friction. Others see the grime, and are given to judge the character of the man by his heed or neglect of this conspicuous feature. An unclean ear is a fault as annoying as a rosy nose, and much more unpardonable. Neglect of this simple duty of keeping the ears clean does more than any thing else to bring on deafness, and to blunt the sensibility of the hearing nerve.

3. A third counsel, which may seem to contradict the first is, to *avoid needless exposure of the ear to cold draughts.* The air should come into the ear freely, but should not be forced into it, especially when it holds chill and frost. The blasts of Boreas should not be taken on the sides of the head, but bravely taken in front. To sit, even in the summer, by a window, with a current blowing steadily into the ear is dangerous, much more in the winter, when the winds are wild and harsh. These draughts in the ears are the worst hazard in sleigh-riding, and justify the mufflers and fur lappets that else would be superfluous. No direct current into them is altogether proper, even if it be gentle as a whisper; and there is no more uncomfortable companion than one who always has "a word for your private ear." Whispering as a habit is detestable, not only from its suggestion of fear and secrecy, but from its annoyance to the ear into which it is poured. In the Hebrew time it was the sign of something doleful and dismal. When David saw that the servants went whispering round the house, he knew that his poor child was dead; and Paul classes "whisperings" along with "swellings and tumults," envy, deceit, and murder. That the angels whisper, is not a Scriptural teaching. The angels sing; but they are only vampires, when they get close to the ear and pour into this their breath.

4. A fourth counsel is, to *avoid shocks to the ear,* sharp, sudden, explosive sounds, which jar the nerve and in time derange its function. A man whose business it is to test artillery can not be expected to appreciate harmony, and will not be a good critic of the opera. It is no wonder that the Duke of Wellington hated music, after his experiences in twenty years of war. One may get used to any thing in this kind, indeed, and we knew a naval officer whose morning slumber was not disturbed by the daylight gun, thirty-two pounder, fired just above his head. Mr. P. S. Gilmore, the Napoleon (possibly, some might say wickedly, the Barnum) of American music, added to the crash of this monster orchestra the double roar of brass-throated cannon with immense effect. Yet these cases will not disprove the general statement that shocks of any kind are not good for the ear. Loud sounds do no harm; the ear is not pained by the rolling thunders, which only speak of the grandeur of elemental forces and utter a voice divine. But any sharp sound, which comes without warning, pains the ear upon which it falls, whether it is the crash of a pistol, the slamming of a door, or the blasting of a rock. For auditory reasons, if for no other, we shall do well to keep clear of all "raging rocks and shivering shocks."

5. And still another suggestion is, as far as possible, to *shun all harsh, discordant, and grating sounds.* There must be wood-sawyers; yet sawing wood is as unhealthy for the ears as filing steel is for the lungs, or working lace is for the eyes. Babies will cry, and mothers must care for them; that trial to the ear must be borne in the interest of affection. Mistresses will scold, and sailors will swear. It is inevitable that the discords of feeling in the world should find voice. All of us have to hear more or less of harsh sound every day, the creaking of wagons, the groaning of winds, the barking of dogs, to say nothing of the more fearful trial of bad music on the flute, or the piano, or the horn. In the cities, where organ grinding crosses the other discords by its unending whine, one prays to be deaf, and wishes that his ears could be sealed. The fewer, nevertheless, of these harsh sounds we allow ourselves to hear, the better. The more we counteract them by musical sounds the better. The songs of the nursery are an antidote to the cries of the nursery, and if the

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mother can not still baby's sharp complaint, she does well to drown its cries in her own lullaby, and sing it to sleep. The best way to escape the discords of most of what is called church music, congregational singing, sacred singing, is to join heartily in with it. In this performance, two negatives make half an affirmative at least, and one who makes discords himself is not so much vexed by the discords which others around him make. Universal discord becomes universal concord, and meets harmony as it gets around the circle. That fact may explain the Pentecost miracle, how in the multitude of dialects, all shouting together, all were understood, and the Spirit of the Lord seemed to be surely with them. If we must hear that which is harsh upon the ear, let the harshness be multiplied, until it floods the ear.

The ear can be educated, as much as the hand can be trained; and no plan of education is complete or wise, which leaves this wholly out of its notice. Music, in the common school, is as important for the cultivation of hearing as for the cultivation of voice. We need to practise in distinguishing sounds and the shades of sound, as much as in the rules of arithmetic, or the rules of grammar. Indeed, of a large part of all knowledge and all impressions the ear has principal charge. It is the prime minister of memory. By hearing, and the attentive ear, we learn the multiplication table, the odes of Horace, and the teaching of the Scripture. The art of listening comes in the training of the ear; and a good listener is sure everywhere to be popular and welcome, even more than a good talker. The model judge is one who always keeps his ears open, though his eyes may be shut; such a man as Chief Justice Shaw of Massachusetts, who heard all that the lawyers said, though he never frowned upon them with his brow of Jove. And he who would hear what the wild waves say, must listen for their voice with an ear attuned to all fine harmonies. What is called culture of the ear is, indeed, often only its chastisement, and native instinct is sadly depraved by the training of these nerves of hearing. An anæsthetic, which shall still the anguish of trained ears in process of training other ears, is still to be desired. It is safest, on the whole, to hear all that we can of harmony, and to keep the ear busy on week days and Sundays, even if we have nothing better than the holy tones of the pulpit, or the overlaid chords of a well-meaning, but ill-balanced choir. If the Divine ear can bear all these tones and strains, why should our human ears not be patient under them?

WHAT POVERTY CAN NOT DO.—If men would but remember how many excellent pleasures, how many elevating pursuits, how many of the worthiest ends are quite independent of mere material wealth; if they would but consider the ambitions which best become our better nature; if they would but think how truth, and love, and constancy, and self-sacrifice are oftenest most beautifully developed in an atmosphere of poverty; if they would but reflect that no bankruptcy can deprive them of the charms of nature, of the gratifications of study, of the happiness of home, they might be less eager in the pursuit of wealth, and less inconsolable for the loss of it. But we have forgotten the better half of the lesson which Dr. Franklin taught us. We are willing enough to thrive luxuriantly, but we are not willing to enjoy moderately. It is safe to say that none of the admonitions of that fine old man, which are oftenest quoted in defense of acquisition, referred to enormous aggregations of private wealth such as in our day have become almost too common for notice. Happy is he who can hit upon the happy medium; who can fairly decide for himself the relative value of different schemes of life; and who can be content with poverty if it be his portion, or wise in the use of wealth should it be vouchsafed to him.—*New York Tribune.*

THE PERIL OF THE LIQUOR TRAFFIC.—The peril to society and the nation at large from the presence of drunkenness, and causes which produce drunkenness, is not that individuals may suffer, or families be broken up. No personal suffering, however acute, no private overthrow, however disastrous, can guage this gigantic evil, or express the peril. But the danger is this, that there exists in society a traffic at war with every legitimate business, and which fattens itself on the loss of all other trades and pursuits; that this traffic is so systematized that if feeds with an omnipresent supply every evil temper and violent passion of the human heart, and is able, even now, to mold it to its own liking the legislation of the country. These propositions contain, in my opinion, the gravamen of the charge which may justly, and without exaggeration, be brought against this traffic. They constitute a platform broad enough for business men, philanthropists, and statesmen to stand harmoniously upon. Here the several elements of interest, humanity, and patriotism can unite, and, mingling, form a strong and not easily-resisted current of reform.—*Rev. W. H. Murray.*

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OUR STUDIES IN PHYSIOLOGY.

*FOURTH STUDY.**

HOW TO EXAMINE THE BLOOD.

IN order to become properly acquainted with the characters of the blood, it is necessary to examine it with a microscope magnifying at least three or four hundred diameters. Provided with this instrument, a hand lens, and some slips of thick and thin glass, the student will be enabled to follow the present lesson.

The most convenient mode of obtaining small quantities of blood for examination, is to twist a piece of string, pretty tightly, around the middle of the last joint of the middle, or ring finger, of the left hand. The end of the finger will immediately swell a little, and become darker colored, in consequence of the obstruction to the return of the blood in the veins caused by the ligature. When in this condition, if it be slightly pricked with a sharp clean needle (an operation which causes hardly any pain), a good-sized drop of blood will at once exude. Let it be deposited on one of the slips of thick glass, and covered lightly and gently with a piece of the thin glass, so as to spread it out evenly into a thin layer. Let a second slide receive another drop, and let it be put under an inverted tumbler so as to keep it from drying. Let a third drop be dealt with in the same way, a few granules of common salt being first added to the drop.

BLOOD UNDER THE MICROSCOPE.

To the naked eye the layer of blood upon the first slide will appear of a pale reddish color, and quite clear and homogeneous. But on viewing it with even a pocket lens its apparent homogeneity will disappear, and it will look like a mixture of excessively fine yellowish-red particles, like sand or dust, with a watery, almost colorless fluid. Immediately after the blood is drawn the particles will appear to be scattered very evenly through the fluid, but by degrees they aggregate into minute patches, and the layer of blood becomes more or less spotty.

CORPUSCLES.

The particles are what are termed the corpuscles of the blood; the nearly colorless fluid in which they are suspended is the plasma.

The second slide may now be examined. The drop of blood will be unaltered in form, and may perhaps seem to have undergone no change. But if the slide be inclined, it will be found that the drop no longer flows; and, indeed, the slide may be inverted without the disturbance of the drop, which has become solidified, and may be removed with the point of a penknife, as a hemispherical gelatinous mass. The mass is quite soft and moist, so that this setting or coagulation, of a drop of blood is something very different from its drying.

On the third slide, this process of coagulation will be found not to have taken place, the blood remaining as fluid as it was when it left the body. The salt, therefore, has prevented the coagulation of the blood. Thus this very simple investigation teaches that the blood is composed of a nearly colorless plasma, in which many colored corpuscles are suspended; that it has a remarkable power of coagulating; and that this coagulation may be prevented by artificial means, such as the addition of salt.

If, instead of using the hand lens, the drop of blood on the first slide be placed under the microscope, the particles or corpuscles of the blood will be found to be bodies with very definite characters, and of two kinds called respectively the red corpuscles and the colorless corpuscles. The former are much more numerous than the latter, and have a yellowish-red tinge; while the latter, somewhat larger than the red corpuscles, are, as their name implies, pale and devoid of coloration.

The corpuscles differ also in other and more important respects. The red corpuscles are flattened circular disks, on an average one thirty-two hundredth of an inch in diameter, and having about one-fourth of that thickness. It follows that rather more than ten million of them will lie on a space one inch square, and that the volume of each corpuscle does not exceed one one-hundred-and-twenty-thousand-millionth of a cubic inch.

The broad faces of the disks are not flat, but somewhat concave, as if they were pushed in toward one another. Hence, the corpuscle is thinner in the middle than at the edges, and when viewed under the microscope by transmitted light, looks clear in the middle and darker at the edges, or dark in the middle and clear at the edges, according to circumstances.

* Our Studies in Physiology are condensed from Prof. T. H. Huxley's English works, not published here.

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When, on the other hand, the disks roll over and present their edges to the eye, they look like rods. All these varieties of appearance may be made intelligible by turning a round biscuit or muffin, bodies similar in shape to the red corpuscles, in various ways before the eye.

The red corpuscles are very soft, flexible, and elastic bodies, so that they readily squeeze through apertures and passages narrower than their own diameters, and immediately resume their proper shapes. The exterior of each corpuscle is denser than its interior, which contains a semi-fluid, or quite fluid matter, of a red color, called hæmoglobin. By proper processes this may be resolved into an albuminous substance termed globulin, and a peculiar coloring matter which is called hæmatin. The interior substance presents no distinct structure.

From the density of the outer as compared with the inner substance of each corpuscle, they are, practically, small flattened bags or sacs, the form of which may be changed by altering the density of the plasma. Thus, if it be made denser by dissolving saline substances or sugar in it, water is drawn from the contents of the corpuscle to the dense plasma, and the corpuscle becomes still more flattened. On the other hand, if the plasma be diluted with water, the latter forces itself into and dilutes the contents of the corpuscle, causing the latter to swell out, and even become spherical; and, by adding dense and weak solutions, the corpuscles may be made to become successively spheroidal and discoidal. Exposure to carbonic acid gas seems to cause the corpuscles to swell out; oxygen gas, on the contrary, appears to flatten them.

The colorless corpuscles are larger than the red corpuscles, their average diameter being one twenty-five-hundredth of an inch. They are further seen, at a glance, to differ from the red corpuscles by the extreme irregularity of their form, and by their tendency to attach themselves to the glass slide, while the red corpuscles float about and tumble freely over one another.

A still more remarkable feature of the colorless corpuscles than the irregularity of their form is the unceasing variation of shape which they exhibit. The form of a red corpuscle is changed only by influences from without, such as pressure, or the like; that of the colorless corpuscle is undergoing constant alteration, as the result of changes taking place in its own substance. To see these changes well, a microscope with a magnifying power of five or six hundred diameters is requisite; and, even then, they are so gradual, that the best way to ascertain their existence is to make a drawing of a given colorless corpuscle at intervals of a minute or two.

Careful watching of a colorless corpuscle, in fact, shows that every part of its surface is constantly changing—undergoing active contraction, or being passively dilated by the contraction of other parts. It exhibits contractility in its lowest and most primitive form.

While they are thus living and active, no correct notion can be formed of the structure of the colorless corpuscles. By diluting the blood with water, or still better, with water acidulated with acetic acid, the corpuscles are killed, and become distended, so that their real nature is shown. They are then seen to be spheroidal bags or sacs, with very thin walls; and to contain in their interior a fluid which is either clear or granular, together with a spheroidal vesicular body, which is called the nucleus. It sometimes, though very rarely, happens that the nucleus has a red tint.

The sac-like colorless corpuscles with its nucleus, is what is called a nucleated cell. It will be observed that it lives in a free state in the plasma of the blood, and that it exhibits an independent contractility. In fact, except that it is dependent for the conditions of its existence upon the plasma, it might be compared to one of those simple organisms which are met with in stagnant water, and are called amæbæ.

That the red corpuscles are in some way or other derived from the colorless corpuscles may be regarded as certain; but the steps of the process have not been made out with perfect certainty. There is very great reason, however, for believing that the red corpuscles is simply the nucleus of the colorless corpuscle somewhat enlarged; flattened from side to side; changed by development within its interior of a red coloring matter; and set free by the bursting of the sac or wall of the colorless corpuscle. In other words, the red corpuscle is a free nucleus.

The origin of the colorless corpuscles themselves is not certainly determined; but it is highly probable that they are constituent cells of certain parts of the solid substance of the body which have been detached and carried into the blood, and that this process is chiefly effected in what is called the ductless glands, from whence the detached cells pass, as lymph-corpuscles, directly or indirectly, into the blood.

FIBRIN OF THE BLOOD.

When the layer of blood has been drawn ten or fifteen minutes, the plasma will be seen to be no longer clear. It then exhibits multitudes of extremely delicate filaments of a substance

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called fibrin, which have been desposited from it, and which traverse it in all directions, uniting with one another and with the corpuscles, and binding the whole into a semi-solid mass.

It is this deposition of fibrin which is the cause of the apparent solidification or coagulation of the drop upon the second slide; but the phenomena of coagulation, which are of very great importance, can not be properly understood until the behavior of the blood, when drawn in larger quantity than a drop, has been studied.

When, by the ordinary process of opening a vein with a lancet, a quantity of blood is collected into a basin, it is at first perfectly fluid; but in a quarter of an hour, and sometimes in less than half that time, it separates into two very different constituents—the one a clear, yellowish liquid, the other a red, semi-solid mass, which lies in the liquid, and at the surface is paler in color and firmer than in its deeper part.

The liquid is called the serum; the semi-solid mass the clot or crassamentum. Now the clot obviously contains the corpuscles of the blood, bound together by some other substance; and this last, if a small part of the clot be examined microscopically, will be found to be that fibrous-looking matter fibrin, which has been seen forming in the thin layer of blood. Thus the clot is equivalent to the corpuscles plus the fibrin of the plasma, while the serum is the plasma minus the fibrinous elements which it contained.

The corpuscles of the blood are slightly heavier than the plasma, and therefore, when the blood is drawn, they sink very slowly toward the bottom. Hence the upper part of the clot contains fewer corpuscles, and is lighter in color than the lower part—there being fewer corpuscles left in the upper layer of plasma for the fibrin to catch when it sets. And there are some conditions of the blood in which the corpuscles run together much more rapidly and in denser masses than usual. Hence they more readily overcome the resistance of the plasma to their falling, just as feathers stuck together in masses, fall much more rapidly through the air than the same feathers when loose. When this is the case, the upper stratum of plasma is quite free from red corpuscles before the fibrin forms in it; and, consequently, the uppermost layer of the clot is nearly white; it receives the name of the buffy coat.

After the clot is formed, the fibrin shrinks and squeezes out much of the serum contained within its meshes; and, other things being equal, it contracts the more the fewer corpuscles there are in the way of its shrinking. Hence, when the buffy coat is formed, it usually contracts so much as to give the clot a cup-like upper surface.

Thus the buffy coat is fibrin naturally separated from the red corpuscles; the same separation may be effected, artificially, by whipping the blood with twigs as soon as it is drawn, until its coagulation is complete. Under these circumstances the fibrin will collect upon the twigs, and a red fluid willl be left behind, consisting of the serum plus the red corpuscles, and many of the colorless ones.

The coagulation of the blood is hastened, retarded, or temporarily prevented by many circumstances.

Temperature.—A high temperature accelerates the coagulation of the blood; a low one retards it very greatly; and some experimenters have stated that, when kept at a sufficiently low temperature, it does not coagulate at all.

The Addition of Soluble Matter to the Blood.—Many saline substances, and more especially sulphate of soda and common salt, dissolved in the blood in sufficient quantity, prevent its coagulation; but coagulation sets in when water is added, so as to dilute the saline solution

Contact with Living or Not Living Matter.—Contact with not living matter promotes the coagulation of the blood. Thus blood drawn into a basin, begins to coagulate first where it is in contact with the sides of the basin; and a wire introduced into a living vein will become coated with fibrin, although perfectly fluid blood surrounds it.

On the other hand, direct contact with living matter retards, or altogether prevents the coagulation of the blood. Thus blood remains fluid for a very long time in a portion of a vein which is tied at each end.

The heart of a turtle remains alive for a lengthened period (many hours or even days) after it is extracted from the body; and so long as it remains alive, the blood contained in it will not coagulate, though, if a portion of the same blood be removed from the heart, it will coagulate in a few minutes.

Blood taken from the body of the turtle, and kept from coagulating by cold for some time, may be poured into the separated, but still living heart, and then will not coagulate.

Freshly deposited fibrin acts somewhat like living matter, coagulable blood remaining fluid for a long time in tubes coated with such fibrin.

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THICKNESS OF BLOOD.

The proverb that "blood is thicker than water" is literally true, as the blood is not only "thickened" by the corpuscles, of which it has been calculated that no fewer than seventy thousand million (eighty times the number of the human population of the globe) are contained in a cubic inch, but is rendered slightly viscid by the solid matters dissolved in the plasma. The blood is thus rendered heavier than water, its specific gravity being about 1055. In other words, twenty cubic inches of blood have about the same weight as twenty-one cubic inches of water.

The corpuscles are heavier than the plasma, and their volume is usually somewhat less than that of the plasma. Of colorless corpuscles there are usually not more than three or four for every thousand of red corpuscles; but the number varies very much, increasing shortly after food is taken, and diminishing in the intervals between meals.

The blood is hot, its temperature being about 100° Fahrenheit.

COMPOSITION OF BLOOD.

In every one hundred parts of blood there are seventy-nine parts of water and twenty-one parts of dry solids; in other words, the water and the solids of the blood stand to one another in about the same proportion as the nitrogen and the oxygen of the air. Roughly speaking, one-quarter of the blood is dry, solid matter; three-quarters water. Of the twenty-one parts of dry solids, twelve (equal to four-sevenths) belong to the corpuscles. The remaining nine are about two-thirds (6·7 parts equal to two-sevenths) albumen (a substance like white of eggs, coagulating by heat), and one-third (equal to one-seventh of the whole solid matter) a mixture of saline, fatty, and saccharine matters, sundry products of the waste of the body and fibrin. The quantity of the latter constituent is remarkably small in relation to the conspicuous part it plays in the act of coagulation. Healthy blood, in fact, yields, in coagulating, not more than from two to four parts in a thousand of its weight of fibrin.

The total quantity of gaseous matter contained in the blood is equal to rather less than half the volume of the blood; that is to say, one hundred cubic inches of blood will contain rather less than fifty cubic inches of gases. These gaseous matters are carbonic acid, oxygen, and nitrogen; or, in other words, the same gases as those which exist in the atmosphere, but in totally different proportions; for whereas air contains nearly three-fourths nitrogen, one-fourth oxygen, and a mere trace of carbonic acid, the average composition of the blood gases is nearly two-thirds carbonic acid, rather less than one-third oxygen, and not one-tenth nitrogen.

It is important to observe that blood contains much more oxygen gas than could be held in solution by pure water at the same temperature and pressure. This power of holding oxygen appears in some to depend upon the corpuscles, firstly, because mere serum has no greater power of absorbing oxygen than pure water has; and secondly, because a solution of hæmoglobin absorbs oxygen very readily. It is further to be remarked, that some substances which are capable of being oxidated with great readiness—such as pyrogallic acid—are not effected by their passage through the blood. Thus it would appear that the oxygen is not quite free, but is held in some sort of loose chemical combination with a constituent of the blood contained in the corpuscles.

The corpuscles differ chemically from the plasma, in containing a large proportion of the fats and phosphates, all the iron, and almost all the potash of the blood; while the plasma, on the other hand, contains by far the greater part of the chlorine and the soda.

The blood of adults contains a larger proportion of solid constituents than that of children, and that of men more than that of women; but the difference of sex is hardly at all exhibited by persons of flabby, or what is called lymphatic constitution.

Animal diet tends to increase the quantity of the red corpuscles; a vegetable diet and abstinence to diminish them. Bleeding exercises the same influence in a still more marked degree, the quantity of red corpuscles being diminished thereby in a much greater proportion than that of the other solid constituents of the blood.

QUANTITY OF BLOOD IN THE BODY.

The total quantity of blood contained in the body varies at different times, and the precise ascertainment of its amount is very difficult. It may probably be estimated, on the average, at not less than one-tenth of the weight of the body.

USE OF THE BLOOD.

The function of the blood is to supply nourishment to, and take away all waste matters from, all parts of the body. It is absolutely essential to the life of every part of the body that it should be in such relation with a current

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of blood, that matters can pass freely from the blood to it, and from it to the blood, by transudation through the walls of the vessels in which the blood is contained. And this vivifying influence depends upon the corpuscles of the blood. The proof of these statements lies in the following experiments: If the vessels of a limb of a living animal be tied in such a manner as to cut off the supply of blood from the limb without affecting it in any other way, all the symptoms of death will set in. The limb will grow pale and cold, it will lose its sensibility, and volition will no longer have power over it; it will stiffen, and eventually mortify and decompose.

But, even when the death stiffening has begun to set in, if the ligatures be removed, and the blood be allowed to flow into the limb, the stiffening speedily ceases, the temperature of the part rises, the sensibility of the skin returns, the will regains power over the muscles, and, in short, the part returns to its normal condition.

If, instead of simply allowing the blood of the animal operated upon to flow again, such blood, deprived of its fibrin by whipping, but containing its corpuscles, be artificially passed through the vessels, it will be found as effectual a restorative as entire blood; while, on the other hand, the serum (which is equivalent to whipped blood without its corpuscles) has no such effect.

TRANSFUSION OF BLOOD.

It is not necessary that the blood thus artificially injected should be that of the subject of the experiment. Men or dogs bled to apparent death, may be at once effectually revived by filling their veins with blood taken from another man or dog, an operation which is known by the name of transfusion.

Nor is it absolutely necessary for the success of this operation, that the blood used in transfusion should belong to an animal of the same species. The blood of a horse will permanently revive an ass, and, speaking generally, the blood of one animal may be replaced without injurious effects by that of another closely-allied species; while that of a very different animal will be more or less injurious, and may even cause immediate death.

The lymph which fills the lymphatic vessels is, like the blood, an alkaline fluid, consisting of a plasma and corpuscles, and coagulates by the separation of fibrin from the plasma. The lymph differs from the blood in its corpuscles being all of the colorless kind, and in the very small proportion of its solid constituents, which amount to only about five per cent. of its weight. Lymph may, in fact, be regarded as blood minus its red corpuscles, and diluted with water, so as to be somewhat less dense than the serum of blood, which contains about eight per cent. of solid matters.

SOURCE OF THE BLOOD.

A quantity of fluid equal to that of the blood is probably poured into the blood daily from the lymphatic system. This fluid is in great measure the mere overflow of the blood itself—plasma which has exuded from the capillaries into the tissues, and which has not been taken up again into the venous current; the rest is due to the absorption of chyle from the alimentary canal.

WHY GIRLS WEAR CHIGNONS.—If Henry III covered his diseased dissipation with a wig, it was incumbent on healthy gentlemen to put themselves to the same inconvenience! Louis XIV, not being so tall as he considered desirable for royal stature, mounted himself on very high-heeled shoes, and ere long all the ladies and gentlemen in Europe deemed it necessary to toddle about in the same style. The Empress Eugenia had her hair rolled over hot irons, and twisted and puffed and frizzled till it grew thin under such manifold manipulations; then she began to supply the deficiency by masses of false hair, and, in consequence thereof, the girls in far-off, sensible New England feel obliged to deform their pretty heads with those ugly excrescences called chignons.—*L. Maria Child.*

DOMESTIC ECONOMY. — Few will deny that the various departments of domestic economy demand science, training, and skill, as much as any of men's professions. But the world has yet to see the *first* invested endowment to secure to woman's profession what has been so bountifully given to men. Never yet has a case been known of a highly-educated woman supported by an endowment to train her sex for any one department of woman's profession. Such favors being withheld, the distinctive profession of woman is undervalued and despised. To be a teacher of young children would be shunned by the daughter of wealth, as lowering her social position. To become a nurse of the sick for a livelihood, or a nurse of young children would be regarded as a degradation; while to become a domestic assistant in the family state would be regarded as the depth of humiliation by many in high social position.—*C. E. Beecher.*

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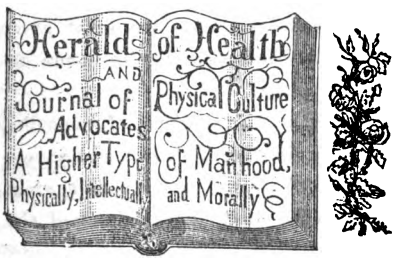
EDITORIAL DEPARTMENT.



NEW YORK, APRIL, 1870.

WATER.

"To the days of the aged it addeth length;
To the might of the strong it addeth strength;
It freshens the heart, it brightens the sight;
'Tis like quaffing a goblet of morning light."

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TOPICS OF THE MONTH.

BY M. L. HOLBROOK, M. D., EDITOR.

LITERARY GYMNASTS. — "What folly is it then," says Herbert Spencer, "while finishing the engine, so to damage the boiler that it will not generate steam." A college course is simply a dignified and rather stylish way of feeding a man's engine, to wit, his intellect; and until within a very recent period, this process of finishing the engine has gone forward, in all our colleges, at the cost of such damage to the boiler, to wit, the body, that when all was beautifully completed, there was in many cases no propelling force to make the machine work; and the whole was a dead failure. For what failure can be more absolutely a dead one, than that of an exquisite, most ingenious highly polished engine without any "go' in it. And in our opinion, that is about the best definition that can be given of one of these melancholy human failures so common in the world—a college graduate who amounts to nothing in life; he is a machine without any "go" in him. We suppose it was precisely these elegant nonentities, these ornamental incumbrances, that our friend Horace Greeley had in mind, when he spoke of thirty thousand graduates of our colleges as walking the stony streets of New York in great uncertainty about the next meal. It is not our intention to assert that the incapacity of all of these educated ciphers could have been averted by any change in our college systems. That would imply that Art could grant what Nature had denied. Yet it is our belief that a very large number of the college graduates who have failed in life, might have had triumphant lives, instead of thwarted and unfruitful ones, if during their college days, the energies of their natures had been cultivated by a wholesome method of physical exercise.

This is a subject to which we have many times hitherto directed the attention of our readers; and we refer to it once more on account of the text furnished us by a report recently published on a "Department of Hygiene and Physical Culture" in Michigan University.

This report goes over the ground more thoroughly than has been done in any other document which has come under our notice.

The primary object of the report appears to be to demolish at one stroke all the objections that can be urged by anxious parents and others against the practice of gymnastics in colleges. The method of demolition is this: the careful collection of testimony from the colleges that have actually tried the experiment.

It must be obvious, that while in the realm of theory, the controversy about the benefits of

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a college gymnasium is almost endless. It can hold out as long as human obstinacy and human lungs and human stupidity choose to operate. But if you try the question on the simple issue of facts, there is some chance of reaching a conclusion.

The first and most elaborate portion of the report before us is a plain array of the facts furnished by actual experience in the working of gymnasiums at Yale, Williams, Amherst, and Dartmouth.

It appeared to the committee that the experience of these colleges was to be sought as to the effects of a Department of Physical Culture in three particulars:

1. Upon the physical condition of the students.

2. Upon the scholarship of the students.

3. Upon the morals and general behavior of the students.

Under the first head the committee made three inquiries: first, whether any serious accidents had occurred in the gymnasium; second, whether there had been any cases of injury from over-practice; third, whether any improvement had taken place in the general health of the students.

These sentences will reveal how minute and searching were the investigations made; and the testimony submitted in reply to these inquiries—testimony given by such men as President Asa D. Smith, President Mark Hopkins, Profs. Edward Hitchcock and F. G. Welch, and Dr. Nathan Allen—is so emphatic, distinct, and abundant, as to be quite overwhelming. No jury could hesitate over its verdict in the light of such evidence. It says not one word of abstractions; but by a simple rehearsal of facts, it utterly annihilates doubt and opposition.

Having satisfactorily disposed of all questions pertaining to the effects of gymnastics upon the physical condition of the students, the committee next inquired concerning the effects of gymnastics upon scholarship. The question is often raised whether the gymnasium might not prove a distraction from study, and especially whether some young men might not become so proud of their success as athletes, as to disregard the pursuits of the mind. Lest any indistinctness might be left lingering over this branch of the subject, the committee inserted this specific question into the list of inquiries sent to the different colleges: "Are the great gymnasts apt to be satisfied with that eminence, to the neglect of study?"

Here, again, the experience of the colleges is a complete dispeller of doubts, and shows that a well-conducted gymnasium adds a great percentage to the intellectual efficiency of the students.

Finally, the report culminates in the deeply interesting evidence which it contains, as to the benign influence of gymnastic exercises upon the moral tone and manners of the students.

Having, in the first part of the report, cleared the ground of all possible objections to gymnastics in colleges, and having established very strong positive evidence in their favor, the committee then address themselves to those practical topics.

1. The sort of building required for a gymnasium.

2. The qualifications and duties of the Professor of Physical Culture.

3. The relation which the Department of Physical Culture should hold to the students, particularly as to the exercises being made compulsory.

The foregoing synopsis will sufficiently indicate to our readers the tendency of our best colleges in the direction of physical training.

It is pleasant to be able to mention, that that tendency is now almost omnipotent, and that its spirit and direction is wholesome.

Much remains to be done in developing the practical details of the subject; and each college must find out the methods best adapted to itself. But one thing is finally settled. Public opinion will regard any college as fatally defective, which hereafter ignores the claim of the body upon the provident care of educators.

We shall all be interested in watching the experiment which is now being tried in the beautiful edifice lately erected at Princeton.

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We expect to see something done at Cornell University worthy of the character which that young and gigantic establishment has already made for itself. It will gratify us, also, to learn that the money needed for this work at Michigan University is fully provided, either by public or by private bestowment.

Meantime, the good cause of a wholesome philosophy moves on. The era of emaciated, hectic, bilious, drooping, sickly scholars has departed. The age demands men—educated men, and no man is educated whose mind has been trained at the expense of his body. The scholars, thinkers, editors, teachers, orators of the future must be healthy minds, upborne through the conflicts of a life-time by the vigor and the valor of healthy bodies.

BE HELPFUL.—The disparity which is apt to be observed between the higher and lower classes in every community is largely due to the different advantages enjoyed by each. Wealth confers leisure, and leisure affords opportunity for personal culture. Poverty is a species of servitude. If abject, it is terribly depressing to the whole nature. Overwork pinches the fine organs of the brain, and unfits the mind for any but the meanest tasks. Insufficient food impoverishes the blood and makes all the manifestations of character feeble and spiritless. Shabby or unsuitable clothing is prejudicial to self-respect. Indeed, the poor are so beset with temptations, and obstacles, and hindrances on every side, that it is a miracle when one succeeds in living nobly.

Our first duty to the suffering classes is to help them to enter upon more favorable conditions. The wants of the physical nature must be supplied before the spiritual can be attended to. Remove the incubus of poverty, and the mind will presently rise by its own elasticity.

In rural districts, where habits of industry and economy prevail, there may be no cases of absolute destitution. But even in the most thrifty community, might not some, perhaps many persons be found, who would be better for a little timely help, or, at least, sympathy? Might not a diligent search bring to light some cases of honorable and struggling poverty—of persons whose life is slowly wearing away in an incessant struggle with difficulties and burdens too great for them to bear; whose spirit is broken with cares, labors, and discouragements, so that they have no longer any heart for studies or culture—sensitive people, who once longed to rise in the world, to be worthy of the world's esteem, but now, defeated in their aims, they have settled down in utter hopelessness of any such result, because the year begins and ends with the same pitiless battle against want—a battle in which they never come off victorious? Schools, churches, and good society have attractions for them still; but they feel themselves outside the pale of these humanizing influences—outcasts, without reputation, or the ability to make a decent appearance among their more fortunate equals.

It may be that but few of those who shall peruse these lines are rich, in the common acceptation of that term; most of our readers undoubtedly know by experience the burden of labor, and the pressure of need; yet few it is to be feared comprehend the desolateness and the danger of the condition we have attempted to describe. It is a terrible evil—who shall say how terrible—where a sensitive soul, ambitious to rise and fulfill a noble destiny, conscious of ability to achieve a worthy work in the world, finds itself at last, after repeated and ever-failing struggles, hemmed in on every side, and cramped and stifled by poverty and the oppression of the great selfish, indifferent world. If our lot is more fortunate, ought we not to be on the watch for such cases? And whenever we see them struggling in silence and seclusion, as they are apt to do, ought we not to proffer them a helping hand? Ought we not to insist upon sharing their burden; not, indeed, with the noisy show of vainglorious liberality, but with the quiet advances of that fraternal charity which letteth not its left hand know what its right hand doeth.

Human arithmetic can not compute the value

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of a moderate gift thus bestowed at the right moment upon a deserving person.

It has made many a mechanic, or tradesman, or farmer a successful man, and an ornament to society, who otherwise would have settled down into despair and utter thriftliness. It has saved many a noble intellect for the service of society in the circles of professional life or of literature, which, without it, would have sunk into some obscure cavern of uselesness and crime.

Nor is the luxury of this enlightened benevolence confined to the rich. You who have no money to give, give counsel, sympathy, support. A word fitly spoken at the right time has often saved a soul from death and covered a multitude of sins. If you have but a kind word, an encouraging smile, or a friendly pressure of the hand, to bestow upon any needy, struggling, tempted soul, give it freely, and trust gracious Heaven for the result. In the morning sow thy seed, and in the evening withhold not thy hand; for thou knowest not whether shall prosper either this or that."

"It is a little thing to speak a phrase
Of common comfort, which by daily use
Has almost lost its sense; yet on the ear
Of him who thought to die unnoticed, 't will fall
Like choicest music; fill the glazing eye
With gentle tears; relax the knotted hand
To know the bond of fellowship again;
And shed on the departing soul a sense
More precious than the benison of friends
About the honored death-bed of the rich,
To him who else were lonely—that another
Of the great family is near and feels."

Death of Anson Burlingame.—Since the publication of the March Herald of Health, we have the news of the death of the distinguished American, Anson Burlingame. We say American, for though he had become a citizen of the Chinese Empire, and was delegated by them with important missions to all the leading governments of the world, yet he was none the less an American for this. He died, we are informed, after a very brief illness, with pneumonia. We have not the particulars of his sickness, nor do we know how he was treated, but we are sure few will differ with us in believing that his death was many years too soon, for he was of a vigorous constitution and in the prime of life. It can not be otherwise than that he in some way seriously violated the laws of life and health, to thus meet with an untimely end. We make this statement with sadness, for Mr. Burlingame was a man of great excellence, and deserved, as he has received, high rank as a diplomatist and citizen. Few will even forget his cutting rebuke to the bully and ruffian Brooks, the would-be murderer of Sumner in the Senate, and his course when challenged by that great coward to engage in a duel.

The numerous deaths of the eminent men and women we have lately been called upon to mention in connection with the cause of reform in matters pertaining to health, ought to teach all a lesson, a lesson concerning how we may live so as to reach the true age alloted to man, and not be cut off prematurely on account of sin against our bodies.

Youthful Depravity.—It would not be amiss for our people to examine the Court Calendar of the City of New York, and see the number of mere boys enrolled among our dangerous classes. At one sitting, the City Judge sentenced seven boys to the penitentiary for terms varying from two to six years. Judge Garvin, in sentencing these young reprobates, remarked: "It is sad to perceive that all these boys, condemned as thieves and burglars, are not more than seventeen years of age."

It is sad, indeed, and should serve as a call to all well-wishers of our kind, to bestir themselves and arrest the terrible torrent of wickedness and crime rife in the midst of us. It will not be long before our great cities will be totally in the power of these bold, reckless Jack Sheppards, and cunning, artful dodgers. Already the police have been detected in conniving at and participating in their evil doings, and those of them who are honest, have been knocked

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down and murdered in more instances than one. Men are robbed in broad daylight, and women have had their jewelry torn from their persons, and yet the perpetrators go unwhipped of justice.

Our cultivated classes will need to learn that they are not guiltless in this wide-spread, increasing reign of disorder and crime. It is said Nero fiddled while Rome was burning, and our wealthy citizens are dancing, fiddling, sinning covertly, and encouraging vice by their own luxury, while this fearful volcano of crime is surely, if slowly, accumulating its fires of destruction. It is nothing less than vanity and foolishness, if nothing worse, for women to parade their jewels in the street, and if they will do it they must run the hazard of peril to themselves.

The appliances of wealth are certainly to be desired, but they are to the best degree childish and effeminate when made use of only to gratify a weak love of display or selfish indulgence. Our people need some great incitement—some noble aspiration, in which we are sadly deficient. Now the ambition of the young is to lead a life of luxury, idleness, and splendor; a desire totally destructive to all that is manly, noble, or humanizing in character. Our pulpits cater too much to this love of excitement, and is widely depositing from that primitive simplicity, purity, and Christ-like contempt of the world, which alone will render it a bulwark of good to society. Our periodical press stoops down to join this whirl of giddy, sensational literature, which aims at notoriety, irrespective of the tendency of what it promulgates, and thus our moral teachers are familiarizing the public mind with crime, and confusing the lives which separate wrong from right doing. Beneath all this, the ignorant and depraved enjoy a perfect carnival of crime, unrebuked, if not countenanced by those who should be our aiders in all that is good and true, and so our penitentiaries are crowded with victims, and men and women live in fear and trembling, or in blind contempt of their danger.

What will be the end!

PHYSICAL CULTURE THE BASIS OF SPIRITUAL.—No human interests are more important or sacred than those which pertain to the body. Upon the proper training and development of this all higher interests depend. We are profoundly convinced that the cause of human improvement, social, moral, and religious, can in no way be more effectually promoted than by the radical investigation of those topics to which this journal is especially devoted. We regard the work in which we are engaged as, in a most important sense, auxiliary to that of the teacher and the clergyman. The moral and intellectual status of man is grounded in the material, and generally advances along with that. If we are to have any great and permanent improvement in the former, we must begin with making some radical changes in the latter. What teacher has not felt the hopeless character of his task, when required to make scholars and gentlemen out of the thick-skulled, small-brained specimens of juvenile humanity that are sometimes placed under his care! And what minister, alive to the character and conditions of his work, does not see how useless is the effort to make spiritually-minded, noble men and women of people who persist in neglecting bodily cleanliness, who are content to breathe a polluted atmosphere in their dwellings, schools, and churches, who habitually fill their stomachs with gross foods and drinks, and poison all the channels of life with rum and tobacco! How many such there are in all our churches and congregations, who thus live in habitual violation of the plainest laws of God, and yet call themselves Christians! Excellent people, no doubt many of them are, though clearly not in the way of progress.

There can be no high, sustained, and healthy spiritual life here on earth, except in connection with habits of wise bodily discipline. Our religion can never be any thing but a poor, puny, sickly growth, a mere effervescence of sentimentalism, until it is based on strict obedience to all the laws of our being, organic as well as spiritual. The Holy Spirit can not work an impossibility. It can do little for the souls of men

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so long as these are kept under by depressing influences of vitiated bodily conditions. The temple must be cleansed, or the celestial visitant will not abide.

The regeneration of which there is just now the most crying need, is physical. Men need, first of all, to be better born; then all the rest will come easier. They need to inherit larger, and better-balanced brains, more harmonious temperaments, and greater vitality. In that case, the work of the teacher and of the preacher would be vastly more simple, and successful, and pleasant. Instead of spending all of their energies in trying to arouse in others some feeble movements of mental and spiritual life, their more pleasing task would be to watch over the natural and timely unfoldings of vigorous germs already implanted. People would not require to be exhorted to become moral and religious; they would naturally become so. Children would insensibly grow up in beautiful habits of virtue and piety. At the proper age they would experience that inward unfolding of the spiritual powers which is the crowning excellence and glory of man, and which marks the beginning of the true human life. Meanwhile, dear reader, let us work on with patience, seeking wisdom, and hoping better things for ourselves and our race.

Death of Rev. Dr. McClintock.—We had hardly laid aside our pen from writing of the death of Mr. Burlingame, before we hear the sad news of the death of Rev. Dr. McClintock, a brilliant scholar, a most excellent man, and one of the pillars in the Methodist Church. At the time of his death he was President of Drew Theological Seminary, and about 56 years of age. In speaking of him, The New York Independent says:

"The chief encomium which the career of Dr. McClintock justly elicits is the witness which he bore, during all his busy life, that he was perpetually making the most diligent use of all his faculties and opportunities. He seemed to be one of those few men who succeed in making as much of themselves as Nature originally designed them to become. In other words, we are entitled to say that he lived, not only morally, but intellectually, a well-spent life. From this tribute the only possible detraction is a warning reference to his occasional (and, in late years, his too frequent) overwork. 'Studies,' says Lord Bacon, 'teach not their own use.' It is not every scholar who takes due heed of this saying. He who studies too much for his body studies too much for his mind. Dr. McClintock's mistake was that he burdened both his body and his mind with an overweight of many books. We are far from saying that he rudely worked himself to death; but, if he had divided his self-respect a little more equally between his brain and his frame, we believe that the bell of the Fourth Avenue Methodist Church would not now be tolling his funeral, and the Drew Theological Seminary would not now be mourning the loss of its President."

We do not, however, think that Dr. McClintock's habits of overwork were the immediate cause of his illness, for his disease, typhoid fever, is not the result of overwork. It is more likely to be caused by foul air or bad water, and perhaps clogging food and imperfect depuration.

Few men, however, had a more deep-seated and truly-religious respect for the laws of health than Dr. McClintock. In his public sermons we have heard him declare most emphatically, that sickness is quite as much a sin against the good laws of God, as lying, or stealing, or cheating, and that premature death is only another name for suicide.

Dr. McClintock was a profound scholar, a keen logician, a man of brilliant wit, gentle, affectionate, devout, ardent, and of energy almost exhaustless. What he sought to accomplish he never failed to do. His loss will not soon be replaced.

General Debility among Pear Trees.—The editor of The Gardeners' Monthly says that general debility is a disease of pear trees, as well as of men and women. Dr. Horatio Wood has also shown this statement to be true. With his microscope he has discovered that many

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pear blossoms do not mature because there is no pollen in the anthers of the flowers. The same has been found to be true of some of the wild blackberries of Europe, and, no doubt, it is also true of the blossoms of many young apple and peach trees.

WHO ARE OUR CRIMINALS?—The Examiner and Chronicle in answer to the question "are our people growing worse?" tries to prove that the most of our criminals are so, because they are Catholics and haters of Protestantism. We think this quite untrue. It is liquor that causes most of the crime, want, and beggary of our large cities. This is a fact so well known, that it is quite unnecessary to comment upon it. Dry up the liquor shops of any city and you will at once dry up the most potent manufacture of criminals that can be found. This has been proved many times. Bessbrook, a model town, of which we gave an account in this monthly in November, 1867, is a notable example among the Irish of the decrease of crime with the disuse of alcoholic liquors. Vineland is another example in this country. Let us ascribe to their proper causes the crimes that abound, when their removal will be more easy.

PALPITATION OF THE HEART.—There are probably few persons who have not at some time in their lives had, if not for more than a moment, palpitation of the heart. The disease is dependent on over-excitement of the nerves of this organ, usually it lasts but a few moments, but cases are on record of its continuing eight days at the rate of 160 beats to the minute. Where not caused by disease of the heart or its valves, it is not a dangerous affection. The best treatment is perfect quiet and composure in a recumbent posture. If it continues long, apply *hot* compresses over the region of the heart changing them often. To prevent their occurrence avoid over-exertion, tight clothing, nervous excitement, a crowded or unventilated room, and, above all, loading the stomach with indigestible articles of food. We have known many instances of palpitation cured by adopting plain, simple habits of life.

MOIST AIR AND HEALTH.—Air that is saturated with moisture, and at the same time loaded with noxious gases, sadly interferes with the escape of moisture from the lungs and skin, and the effect on the body is very much the same as smothering a fire is on its combustion. The moisture can not escape with its load of gases, and their retention oppresses the body very much, reducing the ability to use the muscles and producing a feverish state, which becomes very distressing. When the air is pure and dry, the gases of the body escapes rapidly, and a much better state of health is maintained in consequence.

A LAKE ON FIRE.—The Islands of the Caspean Sea abound in springs of naphtha. In July of last year these wells overflowed, and the naphtha, running into the sea, caught fire. For two days the fire raged over thousands of miles of surface of the sea, producing the most curious phenomenon of a sea on fire. Thousands on thousands of fishes were destroyed. These fishes will surely be deposited in the strata of some soil now forming, and who knows but they will be objects of study for some future geologist who may discover them. Heroditus mentions a tradition in his time that the surface of this sea had once been a sheet of flame, but we should hardly have accredited him had not recent experience verified his words.

HYGIENE FOR PEACH TREES.—Delicious peaches may be raised by the bushel under glass, and ripened in the winter and spring without any great expense to those who understand the art of managing such enterprises. The trees are best planted in tubs or boxes or pots, and housed during winter in a shed where the temperature is not down to the freezing point. No fire-heat is necessary, but the advantage of a warm position should be taken. so as to get the benefit of all the sun that can be secured.

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The trees should be removed to the open air in spring as soon as the weather will permit.

CALUMNY AGAINST PROFESSOR E. P. EVANS.—Our pages have been enriched from time to time by instructive contributions from the pen of this distinguished scholar and author, so we do not consider it going out of the way to take a slight hand in a little scrimmage in which one of our own literary family has lately been engaged, with a very unworthy antagonist. If a man can choose his friends, it is not always possible for him to choose his enemies; and we do not know that Professor Evans is to be blamed because a very reckless and truthless person has seen fit to throw dirt at him. In a word, the story is this. About a year ago, the Professor published in the German language (which he, though an American, is a facile master of), through an eminent New York house, a history of German literature. All who know him are aware, that that is a subject in which he is a profound student and a great authority; and that to accuse him of stealing, bodily, the contents of his book about German literature, is as preposterous as it could be to say that Horace Greeley does not draw upon his own resources when he writes about Protection, or that Mr. Beecher furtively appropriates other people's property when he preaches in Plymouth pulpit. Yet this is the charge that has been trumped up against Professor Evans; and the fabricator of it has taken uncommon pains to circulate the indictment. We are highly pleased, though not at all astonished, to find that the accused has met his assailant, and has left him lying extremely flat and very cold. The points of the controversy are too many to go into here. We refer to it merely to chronicle the fact, that our esteemed contributor has taken no harm from a very foul slander upon his literary integrity.

How to Treat the Sick.

THE CAUSES AND TREATMENT OF ERYSIPELAS.—Erysipelas may be considered a humoral and inflammatory disease proceeding from a vitiated state of the blood, and whether it be epidemic or spasmodic, this peculiar condition of the blood must be present. When it occurs as an epidemic, it is connected with some particular state of the atmosphere. The condition of the blood necessary to produce this disease is undoubtedly produced by intemperance in eating or drinking, or by using improper diet, such as swine's flesh, greasy sweet cakes or concentrated preparations of food largely indulged in, hot coffee and tea; also eating at irregular hours. And it will be found that persons accustomed to a free use of all kinds of food and drink, will develop the disposition to erysipelas, either in their own person, or in that of their offspring, and frequently in both.

Sudden changes of temperature, operating on a system inflamed by gross conditions, or obstructed by constipating food, tend to develop the disease.

The various causes which have been named as producing causes, merely call into action morbific humors previously produced by unhealthy food or intemperance in eating and drinking. And it may be observed that a meal, whether composed of improper, or of healthy food, eaten in excess, is most commonly followed, in erysipelatous habits, by a severe attack of the disease, while on the other hand, a strict attention to diet will lessen the severity of the disease, and often prevent its re-appearance

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Although erysipelas is observed as comparatively confining itself to the true skin, I feel fully convinced that it very frequently is thrown upon internal organs, causing sudden and unexpected loss of life; and this may be the result of its recession from the surface, or it may primarily attack an internal organ, as sometimes happens in child-bed fever and other malignant forms.

TREATMENT.

In the chilly stage the vapor bath, or hot sitz bath should be used for twenty minutes, or until a free perspiration ensues, then sponge off with cool water and dry with a sheet, and after brisk dry hand rubbing cover up warmly in bed. When the fever rises, give a half pack for thirty minutes, or a cool sitz bath fifteen minutes; sponge off with cool water after the pack, and rub dry as before; keep a cool compress over the chest and abdomen, changed every hour during the fever. If necessary, move the bowels freely once a day by injections.

When the eruption appears, if accompanied by much heat and burning, steam the part affected twice a day; if the head is the part affected, cover it closely while steaming it, or take a vapor bath once a day, in the morning while the fever is down; use cool compresses constantly over the inflamed part, made of a wet towel of two or three thicknesses covered with a dry flannel cloth, change frequently enough to allay the burning sensation. The fever should be controlled besides the general treatment, by sponging the body frequently without exposing the patient to cool air. Should there be a tendency to a recession of the eruption, a determination to the surface must be kept up, by drinking freely of hot water, and placing jugs of hot water to the feet, in order to produce a slight sweating, which must be kept up until relief is obtained, being careful of sudden exposures to cold.

When the eruption appears of a livid hue, foment the part thoroughly, with flannel cloths wrung out of as hot water as can be borne; change every five minutes for half an hour, follow with the cold compress; if there should be ulcerations, tepid water dressings should be constantly applied.

REGIME.

The room should be well ventilated and the clothing changed frequently; the patient should be kept as quiet as possible, and see but little company. The food must be light and simple in the early stage; rice water, barley water, panada, sago and wheatmeal gruel, should be used moderately. During convalescence, much depends upon the diet to prevent a relapse; toast, graham pudding, graham bread, baked potatoes or apples should be used; while grease, fat meats, milk, sausages, sweetmeats, raw fruits, preserves, acids and food that would cause acidity of the stomach should be avoided.

SEQUELÆ.

This disease, under drug treatment, often terminates in dropsical swelling, deep-seated ulceration of the cellular membrane, metastases, to internal organs; and sometimes it suddenly disappears in one part and re-appears in a distant one. As the disease is caused by a vitiated condition of the blood, under Hygienic treatment the disease does not become so virulent, and we never have ulcers, dropsies, gangrene swellings and deaths. We aid nature in the effort of purification, and patients recover.—DR. MCCALL.

INFANTINE DISEASES.—The following is extracted from Mrs. Dr. R. B. Gleason's new book, "Talks to My Patients," now in press. See advertisement on cover of this number.

"The impression that water treatment can not be applied to the wants of the weak and

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well ones, is incorrect. Plunges, packs, douches, all cold, were a peculiar feature of the Priessnitz method, hence the name "cold-water cure" is often applied where hot or tepid baths are largely used. The temperature of the water may be so varied, and its use so regulated, as to soothe the slightest or the severest fever, and relieve chills, creeping or congestive, whatever the age of the sufferer.

If the little one has a cold, let it be put in a warm bath up to the chin, as warm as its sensitive skin will allow, which is usually about one hundred degrees; let the bath be five or ten minutes in duration and then be reduced to ninety degrees; then take out the little patient and rub it briskly. This should be done just before the nap, or the going to bed for the night, because, in either case, it is easier to keep the child warm, which is necessary.

When there is a feverish heat about the body, apply bandages of soft linen, two thicknesses, reaching from the armpits to the hips; over this two folds of flannel or thick cotton. While this is warm take care that the general surface is not chilled thereby. To prevent this, put on a long sack or double gown. The bandage may be renewed during the night if the fever returns.

If the lips are dry, put a roll of wet linen to the mouth, or, if the gums are swollen, a small ball of pounded ice in a cloth for them to bite now and then, which will also soothe the little one.

In case of constipation or colic, an injection of water at ninety-eight degrees may be given, having a folded sheet or several napkins under the hips. As to the amount, judge from the ymptoms; pump slowly and as soon as here is an effort to expel on the part of the little patient, withdraw the tube.

If there is diarrhea, sitz baths are very beneficial, even to babies of a few months old. They will sit in a little tub or washbowl with the water from ninety-five to eighty-five degrees, according to the strength and reactive power of the child; have the back and bowels washed, and the child will enjoy it even when quite feeble. The wet girdle, as above described, is of avail in such cases.

If there is griping or straining, injections of water at ninety-eight degrees remove acid matter and relieve inflammations. If this does not quiet the little one, we may give an anodyne injection of five or ten drops of laudanum in a table-spoonful of starch-water. Immediately after press a napkin over the anus for ten or fifteen minutes, so that it may be retained and absorbed.

Let the child live out of doors as much as possible; riding in a carriage, in the arms of a mother, is better for it than a baby wagon, when it is sick.

The daily bath for babies, when they are well, should be cool, ranging from ninety-five to seventy-five degrees, according to their reactive power; but when they are sick, the temperature should be modified to meet the symptoms, remembering that in fever the surface is more sensitive to cold, hence baths or bandages should be warm, so as not to shock the little patient, and make it dread what it might enjoy.

We took from the Orphan's Home a little girl very sick with cough and chronic diarrhea. Every thing in our bath-rooms being strange to her, she screamed as soon as she entered and went down into her warm bath as if she were descending into a fiery furnace or a freezing flood. But finding the water comfortable, she grew calm, and ever after begged for baths and bandages. When her daily fever came on, she would say, "Me feel sick, please give me bath," and when it was over she would tell every one, "Me had nice bath; me feel better now."

Children who have grown up under water treatment will ask, when sick, for baths and

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bandages, their own sensations being often the best guide as to just what they need.

A child in a bath is always a sweet picture, and especially a pleasant one when the brightening face says, as well as the words, "Me feel better now."

By contrast see the subject for pills and casto oil, lying in strong arms, the mother trying to hold the nose together, and the tongue down, while she gives the pill which perhaps after all sticks between the teeth, or the oil which pours out rather than in.

A gentleman who was partial to the early Thompsonian system, with its large doses and crude remedies, said, when his child was sick, he was obliged to call another doctor, as the child's stomach would not hold all the remedies prescribed.

From slight experience, we judge it is difficult to get any but Homœopathic remedies within reach of the stomachs of these little ones. Hence we know how glad mothers are of any remedial means which sick children will enjoy.

Water may be administered in various ways so as to be both pleasant and beneficial, even to these tender lambs. But tact, intelligence and experience must combine to render it a safe remedy. Arbitrary rules can never be a perfect guide for the care of sensitive ones. A wise head and a warm heart should temper the treatment."

TREATMENT OF PLEURISY.—In the early stage, before the fever has fully developed, and while there is a tendency to chill, a vapor bath of twenty-five minutes should be given, followed with a cool sponge bath; repeat once a day during the cool stage. If the vapor is not convenient, a hot sitz and foot bath may be given, the patient being closely enveloped in blankets; add hot water as it can be borne until a free perspiration supervenes, if the person can bear it so long; then sponge as before directed. If the pain is severe, apply flannels and cloths, four or five double, wrung out of hot water, to the affected part; repeat every five minutes for half an hour, or until the pain subsides; then follow with a cool wet compress covered with a dry cloth; change every two hours, or as often as will be comfortable to the patient. Drink freely of hot water, and if there is a tendency to nausea or vomiting, drink tepid water to produce vomiting. When the fever runs high, a tepid sitz bath should be given for fifteen minutes, or a cool wet sheet pack, for half an hour; afterward sponge off with cool water. Frequently sponge the whole body with cool water, when there is much fever. The cool chest wrapper should be constantly worn and changed every three hours, during the feverish state. The bowels should be moved once or twice a day by copious tepid injections. Drinking hot water will relieve the cough and promote expectoration.

As the symptoms gradually subside, the treatment should be milder and cooler; if these directions are closely adhered to, the patient will soon recover, and not be afflicted with the effects of the disease and drugs for years afterward.

REGIMEN.

The patient should be kept quiet, and not talk much; none but the attendants should enter the room, which ought to be kept at a regular temperature, and well ventilated. Care should be taken to keep the clothing dry.

The diet should be simple, consisting of rice water, toast water, panada, and gruel, until the patient begins to convalesce, then baked apples, baked potatoes, toast, farina, graham or cracked wheat pudding, prunes, figs, etc., may be used, being careful not to over-eat, as there is great danger of producing a relapse, which would be more dangerous than the first attack.—DR. MCCALL.

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ANSWERS TO CORRESPONDENTS.

BY A. L. WOOD, M. D.

Effects of Tobacco.—"What are the effects of tobacco upon the human system? Does it aid digestion? It is extensively recommended by physicians for promoting digestion, preserving the teeth, etc. Is its use advisable or advantageous in any case? What is the best and easiest method of abandoning its use?"

That tobacco is poison is freely admitted by all medical writers. That nicotine, its essential principle, is one of the most active and deadly poisons known has been proved beyond a doubt, by repeated experiments upon animals, and by its effects upon men when used as a medicine. Dr. Mussey, who made many experiments upon animals, says, "One drop destroyed a half-grown cat in five minutes. Two drops upon the tongue of a red squirrel destroyed it in one minute. A small puncture made in the tip of the nose with a surgeon's needle, bedewed with the oil of tobacco, caused death in six minutes." The same author observes that, "the tea of twenty or thirty grains of tobacco, introduced into the human body for the purpose of relieving spasms, has been known repeatedly to destroy life."

As regards its effects upon digestion, Dr. Mussey says, "It is a mistake to suppose that smoking aids digestion. If tobacco facilitates digestion, how comes it that, after laying aside the habitual use of it, most individuals experience an increase of appetite and of digestive energy, and an accumulation of flesh?" Says Dr. J. C. Warren, "Tobacco impairs the natural taste and relish for food, lessens the appetite, and weakens the powers of the stomach." The celebrated Dr. Rush says, "Tobacco, even used in moderation, may cause dyspepsia, headache, tremors, and vertigo."

Dr. Henry Gibbons, editor of The Pacific Medical and Surgical Journal, in concluding a recent essay upon "Tobacco and its Effects," says, "In the foregoing pages we have described the general influence of tobacco on man, showing that it impairs digestion, poisons the blood, depresses the vital powers, causes the limbs to tremble, and weakens and otherwise disorders the heart; that it robs the poor man's family; that it is averse to personal neatness and cleanliness; that it promotes disregard for the rights and comforts of others; that it cherishes indolence of body and mind; that it diminishes the vigor of intellect; that it destroys self-control by establishing the slavery of habit; that it develops the lower and animal nature at the expense of the higher; that it entails physical and moral degeneracy upon the offspring; that it leads into bad associations and bad company, and throws its influence in the scale of evil in all the relations of life."

Dr. Willard Parker, of New York, in a recent letter, says: "That tobacco is a poison is proved beyond a question. It is now many years since my attention was called to the *insidious* but positively destructive effects of tobacco on the human system. I have seen a great deal of its influence upon those who use it, and work on it, or in it.

Cigar-makers, snuff manufacturers, etc., have come under my care in hospitals and in private practice, and such persons *never* recover soon, and in a healthy manner, from any case of *injury* or fever. They are more apt to die in epidemics, and more prone to apoplexy and paralysis. The same is true, also, of all who *chew* or *smoke much.*

This poison enfeebles the mind. The Emperor Napoleon had his attention called to this subject in 1862, by a scientific statistician. It was observed, from 1812 to 1861, that the tobacco tax averaged twenty-eight millions of francs annually, and there were eight thousand paralytics and insane in the hospitals of France. In 1832 the tobacco revenue had reached one hundred and eighty millions, and in the hospitals were forty-four thousand paralytics, etc. The undoubted inference is that tobacco has a strong influence in producing these classes of nervous diseases.

A commission was then appointed to inquire into the influence of tobacco in the schools and colleges. After a full and careful investigation this commission reported that it had divided the people into two classes—the *users* and non-*users* of tobacco, and then proceeded to compare them, physically, intellectually, and morally. The result was that those who do not use tobacco were stronger, better scholars, and had a higher moral record. In consequence of this report, an edict was issued prohibiting the use of tobacco in these national institutions, by

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which thirty thousand persons were at once forced to abandon it."

It is almost if not quite as difficult for a confirmed tobacco-user to quit the use of the "weed" as it is for the drunkard to give up his "cups." Tobacco and alcohol make slaves of their devotees, and it requires a strong and determined will to escape from their thraldom. The best way to quit the habit is, after becoming convinced it is injurious and sinful to use it, to stop its use at once and resolve to "touch not, taste not, handle not" the filthy weed again. If one has not will-power enough, when aided by reason and conscience, to enable him to triumph, then there is little hope for him. There are certain conditions which will make the trial easier, but they are of no avail, except as assistants. Constant employment, physical and mental, is perhaps the most important condition. Stimulants of all kinds should be abjured. The diet should be plain and healthful, out of door exercise should be taken daily, daily bathing practiced, and all the laws of health as closely observed as possible. Water should be the only drink, and this may be taken, in small quantities, as often as there is the slightest thirst or desire for tobacco. Holding water in the mouth will help allay the desire for tobacco for the time being. When recovering from a fit of sickness, or while taking a course of treatment at a Hygienic Institution, are the most favorable times for quitting the habit; or it can then be done much easier, but no one should wait for the one or the other but *quit at once.*

Over-Development of the Lungs.—"About four years ago I began to cultivate and expand the lungs, by drawing in a full breath, then pounding on my chest, etc. My lungs have grown and expanded until I am "full chested," and have the wind capacity of a pair of organ bellows. Lately, however, if I ride or walk two or three hours, then stop and bend over, I feel a stiffness of the breast-bone, or somewhere in that region. Sometimes it is painful, and after resting a short time, then draw in a long breath, I feel a pang at the lower extremity of the right lung. Am twenty-five years old. What is the cause? Have I overdone the expanding business?"

You have guessed the cause exactly. The lungs are largely made up of minute air-cells, the walls of which are very thin, to allow the air to come in close relations with the blood in the little capillary vessels everywhere encircling them. In a majority of persons, especially those who take but little active exercise, the cells are in a partially collapsed or contracted state, and are never fully filled with air. This was the condition of your lungs when you commenced "the expanding business." In such cases, expansion and development are necessary and beneficial, but should not be carried to an extreme as in this case. Over-development of any part is injurious, but especially is this true of the lungs. There can be no more air-cells created by any amount of effort, but those which already exist may be brought into full action. When this is done, all special effort at expansion should cease. If continued beyond this point, and the air-cells become unduly stretched, they will become very thin and liable to burst upon great exertion, producing hemorrhage, and also lose their power of contraction, so that the amount of air taken into the lungs at a single inspiration will be diminished, and the chest become rigid and immovable. Great care should be taken not to carry the expansion of the lungs too far. When an increase in the circumference of the chest of three or four inches has been attained by special exercises, the individual should watch himself closely, and cease his efforts as soon as the slightest unpleasant feelings are felt about the chest.

Cleanse and Ventilate your Cellars.—Most cellars, especially at this time of year, contain a large amount of decomposing vegetable matter in the form of decaying fruits and vegetables which give off their foul and poisonous gases during the process of decay. Then again they are usually damp, close, unventilated and unsunned. Air which is kept confined and without the purifying influence of sunlight soon becomes impure and unfit to breathe, and if to this we add the dampness and the constantly-escaping gases of decomposing vegetation, we have the condition of the atmosphere of most cellars. This atmosphere is constantly finding its way into the dwelling above, often causing dangerous fevers and always impairing the health of its occupants.

Swelling under the Eyes.—"What is the cause, and what will be the best remedy for my eyes? They are swollen under the lower eyelids. Sometimes they are not swelled much. Age seventeen. I work part of the day and part of the night, and sleep part day and night."

The cause is probably working at night, and perhaps not enough sleep, in connection with unhealthful habits in other respects. Remedy the cause, whatever it may be, and the effect will soon cease. Learn Nature's laws, and obey them.

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NOTICES OF NEW PUBLICATIONS.

THE PHYSICAL LIFE OF WOMAN: Advice to the Maiden, Wife, and Mother. By Geo. H. Napheys, A.M., M. D., Member of Philadelphia County Medical Society, etc., etc. Author of Compendium of Modern Therapeutics. Philadelphia: George Maclean. 1869.

This is a book for women. It aims to present whatever of practical importance science has to disclose relating to the physiology of woman, her relations to the other sex, the duties involved in those relations, the peculiar diseases to which she is subject, and the means by which those diseases may be prevented. It is admirably written by one well qualified to speak of such matters. The tone of the book is unexceptional. The earnest moral purpose of the author is apparent on every page and gives weight to all his instructions. Few, perhaps none, have succeeded so well in presenting these delicate topics explicitly and thoroughly, and at the same time without the slightest offense to purity.

The plan of the work is eminently practical. It is replete with instruction of immediate and vital use to every woman, whether maiden, wife, or mother; and if all would read and ponder well its lessons of wisdom, great would be the benefits resulting to this and succeeding generations.

"There is a feeling, quite too prevalent we think, which leads many to look with suspicion upon all attempts to popularize the results of scientific research in the department of sexual physiology. No doubt many books of this class have been written which have done far more harm than good. But the fullest admission which the facts in the case call for does not in the least invalidate the general statement, that knowledge in relation to these matters is better than ignorance. "Ignorance," to quote the language of Dr. Napheys, "is no more the mother of purity than she is of religion. The men and women who study and practice medicine are not the worse, but the better, for their knowledge of such matters. So it would be with the community. Had every person a sound understanding of the relations of the sexes, one of the most fertile sources of crime would be removed."

The key-note of the work is struck in the author's opening words: "'Knowledge is force,' saidt he philosopher. The maxim is true; but here is a greater truth: 'Knowledge is safety'—safety amid the physical ills that beset us. Safety amid the moral pitfalls that environ us. It is the revelation of science to woman. It tells her in language which aims at nothing but simplicity, the results which the study of her nature as distinct from that of man has attained. We may call it her physical biography."

And we do not see how any enlightened friend of purity can fail to concur with the author when he says: "It is high time that such a book were written. The most absorbing question of the day is the 'woman question.' The social problems of chiefest interest concern her. And nowhere are those problems more zealously studied than in this new land of ours, which has thrown aside the trammels of tradition, and is training its free muscles with intent to grapple the untried possibilities of social life. Who may guide us in these experiments? What master, speaking as one having authority, may advise us? There is such a guide, such a master. The laws of woman's physical life shape her destiny and reveal her future. Within these laws all things are possible, beyond them nothing is of avail. Especially should woman herself understand her own nature. How many women are there with health, beauty, merriment, ay, morality too, all gone, lost for ever, through ignorance of themselves! What spurious delicacy is this which would hide from woman that which beyond all else it behooves her to know! We repudiate it, and in plain but decorous language—truth is always decorous—we propose to divulge those secrets hidden hitherto under the technical jargon of science."

We thank the learned author for these brave and timely words. We commend his book to the thoughtful perusal of every daughter, wife, and mother in the land.

STRUGGLES AND TRIUMPHS; or, Forty Years' Recollections of P. T. Barnum. Written by Himself. Hartford: J. B. Burr & Co. 1869.

We have waited for some time to be able to notice this work more at length than can be done in a short paragraph, but our waiting seems to be in vain. The work contains 780 pages, and it is rare that so large a work contains so much that is not only readable, but absolutely fascinating. He knows Mr. Barnum but partially, who knows him only as a showman and proprietor of the American Museum. As a business man he was brilliant, and with few exceptions, wonderfully successful.

We commend the book to the following persons:

1. Those who are in any way despondent or downhearted. The lively stories in it will serve to dispel many a gloomy hour, and act as a healthful tonic to the mind.

2. To those who have suffered reverses of fortune. Mr. Barnum's experience in this particular is valuable, and will nerve many persons up to fresh encounter, to compel the wheels of fortune to roll forward instead of backward.

3. To young men who need spurring on to manly endeavor. Not that we commend all of Mr. Barnum's methods of gaining success, but because they show energy, prudence, foresight, and a determination which are rarely equaled.

We like the idea that people whose lives have been a success should write their own biography; and we have had three notable examples within the last year, Barnum, Gough, and Horace Greeley.

AMERICAN AGRICULTURAL ANNUAL, 1870. A Farmer's Year Book, exhibiting recent Progress in Agricultural Theory and Practice, and a Guide to Present and Future Labors.

AMERICAN HORTICULTURAL ANNUAL, 1870. A Year Book of Horticultural Progress for the Professional and Amateur Gardener, Fruitgrower, and Florist. Illustrated. New York: Orange, Judd & Co., 245 Broadway.

As usual, this enterprising firm signalize the close of the old year and the opening of the new by issuing these attractive annuals, which, indeed, have grown to be an institution. These volume taken in connection with their predecessors, form a valuable record of the present condition and recent progress of Agriculture and Horticulture.

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THE PUBLISHERS' DEPARTMENT.

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DR. A. L. WOOD, and
THE EDITOR.

Mrs. Susan Everett, M. D., will lecture, during the month of April, in Canandaigua, Geneva, Waterloo, and Seneca Falls, N. Y. Her Postoffice address is Syracuse, N. Y.

Clubs of Twenty-five.—Any person who will send us at one time twenty-five new subscribers to this monthly, shall have them for Twenty-five Dollars. Remember they must be new subscribers, and all be sent at one time.

Caution.—Our friends in writing to us will please be very particular and give Postoffice, County and State with every letter, and not depend on us to remember where they live, though they may have told us a hundred times. Those who think we can turn to our books and find their names and address without trouble, are quite mistaken.

Home Treatment.—Invalids wishing prescriptions for home treatment can have them for Five Dollars. They should send full particulars of their cases. Any person sending five new subscribers to THE HERALD OF HEALTH and Ten Dollars, will, if he does not choose other premiums, be entitled to a prescription for treatment free.

Wanted.—Will our readers please send us brief items of news and experience referring to Health and Physical Culture topics. Make them pointed and practical, and we will publish them for the benefit of others. Do not mix them up with business or personal matters, but on separate sheets of paper and in readiness for the printer.

The Picture of Humboldt.—We are now sending out the picture promised to our single subscribers for 1870, who send directly to the publishers $2. Lest there be a misunderstanding on the part of some, we state distinctly that those who take THE HERALD at club rates will not be entitled to it. The way to secure the picture is to send your money direct to the publishers.

How to Send Money.—In making remittances for subscriptions, always procure a draft on New York, or a *Postoffice Money Order*, if possible. Where neither of these can be procured, send the money, *but in a Registered letter*. The present registration system has been found by the postal authorities to be virtually an absolute protection against losses by mail. *All* Postmasters are obliged to register whenever requested to do so.

Notice to Our Correspondents.—

The following hints to correspondents should be observed in writing to us:

1. ALWAYS attach name, Post Office, County, and State to your letter.
2. SEND MONEY by Check on New York, or by Postoffice Money Order. If this is impossible, inclose Bills and register Letter.
3. CANADA AND NEW YORK CITY SUBSCRIBERS should send 12 *cents extra*, with which to prepay postage on subscriptions to THE HERALD OF HEALTH.
4. REMEMBER, if you are entitled to a Premium, to order it when you send the Club, and inform us how it is to be sent.
5. REMEMBER THAT WE NOW GIVE the *Empire Sewing Machine* as a premium. It is guaranteed to give good satisfaction.
6. REMEMBER TO SEND in Clubs early.
7. REMEMBER TO LOOK at our Premium List and Book List, and see exactly what we give and have for sale.
8. REMEMBER that for the names and addresses of 25 persons, either invalids or friends of Temperance and Health Reform, we give Prof. Wilson's book on the Turkish Bath. It contains 72 pages.
9. STAMPS should be sent to prepay postage on letters that require an answer.
10. Those who want a good *Spirometer*, *Parlor Gymnasium*, or *Filter* for making their water clean, will find the prices in another column.
11. INVALIDS from all parts of the country are invited to write to us for our circular, and full particulars as to Treatment or Board in the Hygienic Institution, See advertisement elsewhere.
12. See List of Books elsewhere.

Facts for the Ladies.—I purchased my Wheeler & Wilson machine July 10, 1857, and for the first six years used it constantly from morning until late in the evening on heavy cloth and Marseilles work, and the remainder of the time I have used it for family sewing, without repairs, and the machine is in so good condition, that I would not exchange it for your latest number. It will wear a dozen years more without repairing. I have used one needle nearly three years, and have some of the needles that I received with the machine.

Jersey City. MRS. T. EDMONSON.

Our New Wrapper.—Single subscribers at any postoffice will notice that they receive this number in our new superb Envelope. We have had these made that THE HERALD might be sent flat, and thus reach subscribers in better condition than if folded. The end is cu just enough to allow the Postmaster to see it is printed matter, but not enough to allow of its slipping out. Subscribers who do not receive the monthly regularly will please inform us, and we will send missing numbers. We shall take special pains to mail THE HERALD carefully, but can not always guarantee its safe carriage after it is out of our hands. Being a valuable magazine, and so different from most of the monthlies of the country, we know that it is often stolen from the mail by persons who have too little conscience to do right. We hope they will learn enough from it to reform and subscribe.

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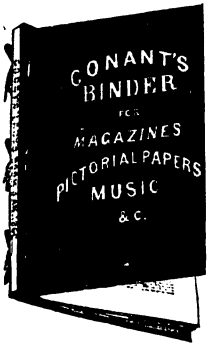

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THE TWO WIVES.

BY MRS. ELIZABETH OAKES SMITH.

CHAPTER XV.

A CRITICAL YOUNG MAN—THE PROFESSOR NON-PLUSSED.

THE Professor was more annoyed than he was willing to admit by the questions submitted to him by the young student. It would seem that the latter feared to have offended, for he called, asking an interview with the Professor, and Bridget ushered him into the room where the little family sat, with their household avocations about them. He was tall and slender, his golden brown hair carelessly thrown back from his pure white forehead, beneath which were eyes of clear dark blue; the whole air was that of a gentleman, the whole man intellectual and refined.

Edward Olmstead was one of those rare children of genius, sometimes vouchsafed the world to show it what the race might be, when the greed of gold, the lust of power, the bond, the shackle, all aspects of the iron hand should yield to the prince of peace, to the noble freedom which is still in Christ the Lord. He was thoughtful and brave, because he had nothing to conceal; pure and manly without questioning the power to be otherwise. It was in no spirit of bravado that he had questioned his superior in the college, but with an intense desire to learn the highest truth, which the teachings of the school-men so rarely inculcated. Sister Electa warmed to the beautiful youth, whose grave smile revealed even white teeth, and whose finely modulated voice indicated so much culture and harmony. Being seated, he turned to the Professor with a modest dignity and said,

"I fear, sir, you may have thought me impertinent in proposing the questions I did; but I did not design to be so."

"It certainly was not in the ordinary routine of instruction," returned Mr. Lyford, "but I accept your apology."

The young man slightly blushed, and rejoined with an ingenuous smile, "I had hoped you would be willing to solve some of my doubts, which really exercise my mind greatly, and cause me much perplexity."

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"Young man," rejoined the Professor, with a sternness foreign to his usual manner, "your best course while pursuing your studies, is to attend to them exclusively, and leave all subjects disconnected therewith in abeyance till your connection with the college shall terminate."

Edward Olmstead's lip trembled—he bowed respectfully, and was about to retire, when Cora, pitying his embarrassment, and drawn to him by a womanly sympathy, laid her hand upon her husband's arm and asked softly,

"Are you willing that I should tell him what I think?"

The Professor in his turn blushed, but he smiled, for all his better nature came back to him. He turned to the student saying,

"The women are more interested in your questions than I have been, and perhaps will help to solve your perplexities."

Edward bent a penetrating glance upon the speaker, not quite sure but irony lurked beneath the words, but Cora's bright face and the open smile of Sister Electa dispelled his doubts, and he replied,

"I have thought, sir, the intuitions of a woman superior to the logic of a man, when any new truth is presented to the human mind. I think she is meant to be the great and last revelater."

The Professor frowned—he had moved in a routine of ideas, and a round of studies that operated as a barrier to the reception of the new or unacknowledged thought. But there was a something in his mind within and beyond this, which struggled to the surface, and, in spite of the prescription of his office, demanded attention. Seeing with what sweet earnestness Cora regarded the youth, he was himself more drawn to him, and he replied, blandly,

"I am engaged at present, Mr. Olmstead, but our dear friend Electa (she will be called only Sister Electa), and Mrs. Lyford will be pleased to talk with you."

He could never know how fervently the young man in his heart thanked him for the privilege, for the Professor could not know how the youth longed to escape the clamor and idle, yea, worse than idle companionship of the other students, and hold communion with the pure and beautiful, from whose society the college young men are so debarred. Both of the women were embarrassed, for they felt that he might expect more from their discussion of the subjects than they were able to afford him. But Cora, with the ingenuousness of a child, spoke first.

"I have told Mr. Lyford that we women must vote, for I think I understand that part of your paper better than the other questions."

The young man looked somewhat puzzled to know, it may be, how she had reached this conclusion so much more readily than others, but his admiration of the beautiful speaker seemed to have quite driven other thoughts out of his mind; at length he said,

"It seems to me so evident that woman ought to have all the privileges that are claimed by man, that I wonder the question should admit of a doubt."

"I suppose it is because we have not thought about it, and men have," replied Cora.

The Professor smiled over the book he held in his hand, showing that he listened to the conversation.

"Women have waited till their brothers fully divined their own rights—now it is time for them to assert theirs." This from Electa.

"Does man fully divine his own rights?" asked the student. "It seems to me that in the course of ages he has so yielded one primitive right after another to the exactions claimed by society, that he is now looking helplessly over the vast barricades built up between him and freedom, powerless to recover that which from the first is inalienably his."

"Will thee name these?" asked Electa, thoughtfully.

"Nearly all our laws are based upon the rights of property, as if man were naturally a thief and a robber."

"He is that—a thief, a robber, a murderer. He delights in war and bloodshed. He has no appetite so strong as the lust of power and the desire of rule," said the Professor, rushing, as it were, into the midst of the subject.

"And yet even Moses addressed his laws to a being in whom the sense of justice existed at least in a rudimentary state; and the Christ, who inculcated the purest and most disinterested beneficence, would not have spoken to beings incapable of understanding them and acting in accordance."

"You talk only abstractions, young man. The history of man is but a history of outrages."

"Most true, but abstract truth is *the* truth, and the history of man had not been told but for the noble struggles of the few to resist the aggressions of power. Were there no progress toward this inalienable human freedom, the whole race would be sunk into hopeless bondage and irredeemable degradation. A world of

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demons, and not a world of hoping, struggling aspiring immortals."

He spoke modestly, but with enthusiasm, his young cheek flushed with the warmth of his thought.

"We have as much freedom under our institutions as the people are capable of appreciating, and all this talk of more is not only absurd but dangerous."

"I can not think the truth dangerous." This was said by Mr. Olmstead, in a low, desponding tone of voice.

"What more would you have?" asked the Professor, coldly.

"I believe in inspiration—in a wider sense than is perhaps generally admitted; therefore, when I read in Moses, and in the Prophets of India, China, and other nations only of prohibitions—the negation only: the do not in all questions, I naturally seek for the affirmative of the question thus given only in its negative sense. From the first it seems to have been 'Thou shalt not,' but in the beautiful teachings of Christ I find this affirmative—this 'do thou'—and in his beautiful life and self-negation, his profound faith in man, compassion for his errors, and help for his infirmities—not only the utterance of a God, but a prototype of man." His young face was lifted up with a serene, heavenly expression.

The Professor was silent, inly troubled, and Electa said,

"I think I see the remedy thee would apply, but I would have thee explain it in thy own way."

"I would remove the interdict; I would cease the law of prohibition; I would so evolve the pure, the good, the beautiful in the world, that men should embrace them as by a primitive instinct."

"Chimerical! visionary, all!" exclaimed the Professor.

"Oh, dear George, do not say so; let Mr. Olmstead talk! I like to think the world can be made lovely."

"It is for woman to complete the work," and the student bent his pure eyes upon her sweet face as if he saw an angel there. "I would convert the waste places of earth into gardens of Eden; I would leave no sign upon its face of crime and its penalties."

"What would you do with the criminal?" asked the Professor, his fine face marred by the touch of a sneer.

"Till the criminal should cease to be, I would place him in villages, which his toil should build and beautify. His comforts should be proportionate with his endeavors to secure them. I would revive something akin to the City of Refuge appointed by Moses, and thus the mere prison would no more exist."

Cora had leaned upon the arm of the Professor while she listened, and she now exclaimed,

"Oh George! I am sure this is the true remedy for crime. I am sure it is. 'Poor God-forsaken and man-forsaken creature,' I heard Electa the other day call a convict."

"It is all to be done by women," continued the student.

"Why not by both sexes?" asked Electa.

"Ours have so long used the hammer and the tongs, to use a vulgar saying, that we are blinded by the dust of our own fiery anvil. In our dull, faithless way we are buried under rocks heaped by our own hands, behind walls which we have constructed and have not the courage to leap over. Christ combined the tenderness of a woman with the courage of a man. Weeping at the grave of his friend, he no less firmly went forward to the furious mob who had come out with arms to seize him, saying, 'I am He whom ye seek,' but over and above all, with a sublime sense of sonship, he said openly, 'I am the Son of God.'" The student was silent, as if all thought concentrated itself in that one claim, and then resumed, "Christ is what all must be. The man should have no more need of courage than the woman. Indeed, as the world now is, she should have the most; she should be the more outspoken, the more resolute of the two, that she may save him and her. The world needs her evangel. It has groaned in agony for the advent of Woman the Redeemer."

"Oh beautiful, Christ-like youth!" exclaimed Sister Electa. "Blessed was the mother that bore thee. You speak the words so long struggling for utterance in my own heart. What shall be the first song of her evangel?"

"She must give new force to that song heard on the Plains of Syria, 'Peace on earth, good will to man.' She must, with all the force of her tongue and life, bid war to cease upon earth. She must train her children to this great gospel of peace. She must sweep from the earth the prison, and above all the gibbet. Thank God, it does not owe its existence to her. She never could have devised the sword, the axe, the burning pyre of the martyr, the tortures of the inquisition, the terrors of the arena, and worse than all the horrors of antiquity, the fearful penalty of the gallows."

"Never, never!" ejaculated the tender Cora,

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with tears streaming from her eyes. The student did not seem to listen, for he went on thus,

"She has had no hand in these things, and with a righteous indignation she should arise and hurl them from the land. She should place a cordon of her sex around every woman adjudged to the penalty of laws which she has had no hand in making. She should demand that a woman shall be condemned only by a jury, part, if not all her own sex; she should refuse to be taxed unless represented. She should claim *nothing* from the standpoint of sex, but all on the ground of a common humanity. The world calls for her action and she must arise to her work."

The cheek of the young man glowed with a beautiful enthusiasm as he uttered this, and rising, he bowed, and was gone.

"O my husband," cried the tender Cora, "how holy, how saintly that young man is! How much nobler we women would be were there more such men!"

"A rhapsodist, a dreamer, a fanatic of the first water," answered the Professor.

"O George," then I wish the world was full of rhapsodists and—and dreamers," she hesitated, and looked full into her husband's face, who turned a little pale.

"You do not like to have me dream, Cora," he replied, softly.

"George, you have never told me your dreams; are they like the waking dreams of Mr. Olmstead?"

"No, Cora, not at all," and he walked the floor in silence.

"Is there evil in thy dreams? My sect believe that the powers of darkness may lead even the saints astray. It may be thee is thus invaded, and it may be that thee is ill." The fine face of Sister Electa glowed with sisterly interest, as she thus propounded to the Professor.

Cora arose and laid her hand upon his arm, and looked in his face inquiringly. Mr. Lyford did not at first observe this pretty womanly movement of hers, but he took her hand at length in his and carried it to his lips.

"No, Sister Electa, there is no evil in my dreams. I have not as yet studied out the phenomenon; but I believe I am growing a better man, with broader thought and nobler instincts through it. It is the narrowness of our experience, the pettiness of our pursuits, and our limited, dry, moral perceptions, that make our lives so poor and ineffective. We judge of each other from so poor a standpoint, that we are outraged at all independence of mind and action. I am in perfect health, Sister Electa."

"I am sure thee is; and this young man, this Edward Olmstead, has he not reached a similar conclusion by a different channel?"

The Professor opened his eyes wide, and a pleasant smile illumed his face, as he said, "That young man has really converted you all into his new ideas; but my dreams deal in eternities, in ages unknown and forgotten. They deal in mysteries of being, incomprehensible to the waking mind, which sees only what is around it. Never, never till now did I realize how fearfully, how wonderfully we are made; never till now did a sentiment universal and tolerant grow upon my mind; never did I so fully comprehend how tenderly our humanity should be cared for and ministered unto; never before rightly interpret that saying, 'Vengeance is mine, and I will repay, saith the Lord.'"

"You talk like Edward Olmstead now, George," said Cora.

"And feeling all this, thee will theorize and not act!" said Electa.

"Yes, yes, I am grooved into my routine, and to leave it would but destroy one positive field of usefulness, without affording me another of like importance. I am a plain student, Sister Electa, not an enthusiast; not inspired, not prophetic, not gifted beyond my fellows. I am content to experience unwonted phenomena, and leave to others their solution. As they have come unbidden, I have an indistinct faith that the same power which has afforded them will also apply them to their needful use." He turned smilingly to Cora and said, kissing her hand, "I am content to love and be loved by my sweet wife."

"She is not always sweet, George. She is an unreasonable, silly little vixen; but she is growing better every day."

CHAPTER XVI.

Paul Stearns—Young Lovers—A Farewell Letter—A Widow's Grief.

At the time of our story, Paul Stearns was one of the brightest and handsomest lads of the village, and as the Professor had sometimes afforded him books for reading and study, he was not unknown to the family, but he was better known in his own grade of life, and most admiringly known to Patience, the small-girl-of-all-work to Mrs. Deacon Grant.

Where father and mother are not in perfect harmony, it is not to be supposed that their

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children are profoundly sympathetic with both, perhaps not with either, and this constitutes one of the evils of ill-assorted marriages. Paul being naturally of a gay, buoyant temperament, would always contrive by some method or other to extract honey from the bitter herbs of every-day life, and he never failed in his off-hand way to put in a word, so bright and unexpected, when the domestic hearth most lowered, that even Janet forgot her wrath, and exclaimed,

"Where that boy got his natur' is more 'n I can guess. He never got it from John Stearns, nor his mother, Janet. A angel must 'ave spoke."

Paul was sorely tried by the long prayers and exhortations of his father, and many and often times has been known to slip out of the open door while he wrestled thus, and gossip with some young crony, and slip in again just in time for the "amen," nor did Janet feel called upon to interfere in the movement because of any religious scruples.

Paul certainly regarded his father with profound respect, while he yielded his mother a sort of bantering, good-natured disobedience. He worked in and about the mill with his father, and was a daily witness of his austere integrity, and intelligence beyond his associates. Paul was accustomed to the sports of the lads upon the river, and was one of the best boatmen and skaters in the neighborhood; indeed, he, like all Yankee boys, could turn his lithe limbs and active mind to any thing, the only drawback being that among so many capabilities he might never be able to apply himself sedulously enough to any single one to insure success.

John Stearns had now frequent returns of what the people called fits, and it began to be considered dangerous for him to work in the mill, even the light-hearted Paul urging his discontinuance, saying:

"I am growing and strong now, Father, and will do for you."

"I know, Paul, that you are wanting to follow the sea. Wait awhile, lad. This can't last long with me. Wait awhile; I would not have your mother left alone." The cold sweat stood in beads upon his brow, and the strong frame shook violently. At length he resumed,

"Wait awhile, lad, this can not last." Glancing about the room to be quite sure that Janet was not present, he took a scrap of sealed paper from his bosom, saying, "Some time to-day put this into the hands of some one at Professor Lyford's."

The youth was not unwilling to have an idle day granted him, and was soon on his route, accoutered in his best suit, the leather strings of his well-greased shoes strongly tied, and his blue stockings, showing a shapely ankle below his trowsers, growing a little short for the wearer. Paul either did not know this, or did not care, for he went on with a quick step, determining at all events to go up the hill and round by Deacon Grant's. Nearing the premises, he heard the clear voice of a young girl singing in a low recitative the words of an old ballad:

"Up then spoke the master cook,
A tear in either eye,
If you would see your daughter dear,
Pray, sir, cut up that pie."

Paul did not scruple to peep through the boards of a high fence and look admiringly at the singer, who sauntered leisurely toward the well, a large slice of brown bread and butter in one hand, which she ate with an appetite, and which rather impeded the delicacies of song. She wore a short blue petticoat, and a loose, striped blue and white sack. Her hair, untouched by morning comb might have been tidier, but could hardly be made more picturesque, as it clustered in sunny curls about her head, having been at some time cut short in hope to tame its luxuriance.

Paul gave a low whistle, at which she started and threw her bread and butter off into the grass, while the quick flush betrayed her delight. In a moment Paul had leaped the fence and stood beside her.

"Don't waste your bread and butter, Patience," he said, with a boyish laugh.

"La, you! how you frightened me, Paul."

"I was coming this way, and thought I'd tell you I mean to go away before long. I'm going to sea the first chance I get."

"O Paul, I wouldn't go, if I was you," and she ground the toe of her heavy shoe into the soil, as if determined to dig a well there.

"Patience, don't you say you wouldn't go; for you would, if you was a grown boy like me. It's a shame to me, it is, to know so little, and do so little at my age."

In spite of her efforts to conceal them, the tears came to the eyes of Patience, which she laughingly tried to cover up by exclaiming,

"There never was such a cold as I've got; I believe it will be the death of me."

"Never you mind that, Patience; I more think you'll be well of your cold, and forget me quick enough, when I'm out of sight, and glad enough to be sweet on Seth Wyman."

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"I suppose so," she answered, with a toss of her head, and cured of her cold instantly.

"Well, then, I needn't have taken the bother to come and see you, that's all. Good bye, Patience."

He turned to go, but Patience called out, "Don't be a fool, Paul," and he returned, to see the smile dimpling her pretty face, and her foot making a new well in the ground, but at this very moment a shrill voice cried from the house,

"Patience, where on earth are you? Not one drop of water in the house, and the tea-kettle jist as dry as a bone."

There was a low shed for poultry between the house and the spot occupied by the young lovers, and Patience at once threw her apron over her arm, and popped round the corner, answering,

"Here I be, ma'm, hunting for hen's eggs," and in a moment she was back at the side of Paul.

"Don't lie, Patience; I don't like it."

"I suppose not; good bye, Paul;" she pouted, and was in her turn going, when Paul seized her by the wrist.

"Aren't you glad I am going, Patience; I always quarrel with you."

"That you do, Paul. You're jist the worst tempered fellow in the place; but for all that, I'd rather have you fight me, than Seth Wyman to be sweet on me."

"But, Patience, you must not spooney Seth; he's a coot of a lad, and thinks you mean it."

Patience giggled coquettishly, and muttered, "I guess I shan't do him any hurt."

"And you must not lie, Patience."

"La, Paul! 'twas jist to keep that old critter," giving a backward toss of her head at the house, "from coming out. But look here, Paul," and she said this with grave earnestness, "do you think I'd lie to any body that loved and trusted me? No, sir; that I would not do," and she gave a great dig into the well. Here she gave a quick start through the shed door and emerged with a lap full of eggs, for a shrill voice screamed again,

"Patience, if you don't bring in that pail of water, I'll skin you alive!"

"Good bye, Paul; I'm done fibbing, depend upon that. I'll speak the truth if *she* breaks my head, and you my heart."

She was going to dart round the corner when she ran directly into the jaws of the lion, in the shape of the energetic Deaconess, who seized her by her thick curls with such force that she nearly lifted her from the ground, at the same time that she so displaced the short petticoat by twisting her and shaking her, that she displayed a much larger portion of Patience's round legs than was at all agreeable to the owner, who flushed doubly with pain and offended modesty.

Seeing Paul at that unexpected hour, the amiable Mrs. Grant dropped her hold of Patience and eyed him with a vinegar aspect, but Paul was before her,

"You'd better look to yourself, ma'am, if you're going to treat a grown girl after that fashion. You're mighty ready with them two hands of yours."

"Hoity, toity! my lad. You crow in pin feathers! I wonder what you'll be when your spurs grow? But mind you, keep off my ground, if you know when you're well off."

Patience having adjusted her petticoats, darted glances of angry scorn at the barricade of her mistress's back, changed to undisguised admiration for her intrepid defender, who grew at once in her eyes to a hero above Turk or Saracen, letting alone Crusader, all of whose exploits she had studied in familiar romance and ballad. Encouraged by her smiles, Paul ventured upon another shot before he took his leave.

"I tell you what, ma'am, I'll complain of you to the Selectmen, and have her papers cancelled."

"Tell 'em you are sweet on the girl, and they'll believe you," she cried, and turning sharply she gave Patience a slap in the face, which greatly accelerated the movements of that young lady.

Paul went on his way light of heart, for the few words of Patience, half love and half pique, such as any girl, whether a rustic, like our Patience, or nobly born, like Juliet, hardly emancipated from caressing her doll, is sure to repeat to her young lover. He felt their purport was love, and he built his airy castle for the future, muttering to himself,

"I must bestir myself. These girls get ahead so fast! I must get off to sea and earn money, and then release Patience from these hard-fisted curmudgeons. To see her grip that pretty head of her's made my very blood run cold."

Paul soon delivered his errand at the Professor's, and felt himself more than rewarded by a sight of the beautiful face of Cora, whose unapproachable loveliness and finish of manner, realized to his fancy all that he had ever read about queens and fairies, and the ladies of song and ballad.

"So soft, so nice, so sweet-spoken! She ought to be stood like an image on a mantle-

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piece, just to be looked at," he mused to himself, overcome by the sense of beauty.

Returning home, one of the workmen gave him a billet from his father. It read in this wise:

"My Son—Perhaps what I am going to say better be left unsaid, but I am a plain man and must speak out. You will not see me again. I leave all in the house to you and your mother. The house is paid for, such as it is, and I have no debts. Your mother was brought up to work, and with a roof over her head will not find it hard to support herself. I inclose fifty dollars for a start in any thing she may choose to do. I leave her my good will.

"Paul, I bear no hardness to your mother; she has acted up to her nature, but we were not adapted to each other, and perhaps the fault was as much mine as hers. *I feel that I could not have her look upon me when I'm dying; I could not die in peace.* Do not worry about me, Paul; I go where I shall be cared for to the last.

"I charge you to be good to your mother. Treat her with patient kindness as I have tried to do. For yourself, do not drink and do not swear, and you will come out about right. I think you and your mother will be happier without me, and so I wait God's time, praying for you to the last.

"Your Father,
"JOHN STEARNS."

To say that Paul, with all his light-heartedness, did not appreciate the depth of feeling underlying the cold expression of the letter, would be doing him injustice. His blood rushed so violently to his head that it spirted from his nose, and he staggered to the house nearly choking with emotion. A thousand remorseful feelings gathered in his heart, and not the least was a wrathful one to his mother. Throwing himself into a chair, he cast the letter upon the table without a word; Janet took it up and began to read aloud, but before she had proceeded far she broke out into shrieks and lamentations:

"To leave me a lone widder; worse, a widder bewitched; never to know whether I'm a widder or not. Oh, dear, dear, dear! I shall choke; I shall choke!" Springing from her chair, she gave way to a disagreeable laugh, exclaiming,

"Catch John Stearns to do that! you couldn't drive him away. He'll be back again—he'll be back. He needn't try to pull wool over my eyes; I'm too sharp for him there," and she began to dig into the cellar with the broom, sniffing and muttering.

"Mother," said Paul, "Father will never come back again. He is not the man to say one thing and mean another."

"You don't know him so well as I do. He'll be back. I've been used to work! have I? We'll see, we'll see," and with these mysterious words she went on with her broom.

But the sun went down and he did not come. The night darkened; the stars came out, and the young moon was lost in her bed of sapphire and purple, and yet he did not come. Janet sat upon the door-sill and waited and watched, till the gray of the morning came, and then she arose in a mood of unwonted softness and went to her bed. Hearing her sob and cry, Paul approached her.

"Can I do any thing for you, Mother?" he asked.

"Oh, Paul! bring him back; bring him back!"

"I know not where to go, Mother. He took the boat and went down the river."

"Oh Paul, Paul! he was a good creatur', a good creatur'! What shall I do! what shall I do! Look here, Paul, he has left me his watch and his silver shirt buttons, and gone away for good."

Complicated Toggery.—The complicated toggery worn by the old nobility would be too inconvenient for merchants, manufacturers, mechanics, and others who have work to do in the world. Men now pride themselves upon spending their wealth on colleges, railroads, steamers, and other public improvements, rather than upon personal decorations. Finery is considered decidedly unmanly.

And, as women become invested with larger responsibilities, and became conscious of living for more extensive usefulness, will they not shake off the tyranny of fashion and learn to combine gracefulness with simplicity and convenience in their costume? I believe so; for there is the same human nature in men and women, and similar influences will produce similar results in both.—*L. Maria Child.*

Be Brief.—The ancients could express a thought so perfectly in a few words or sentences, that they did not need to add more: the moderns, because they can not bring it out clearly and completely at once, heap sentence upon sentence, in hopes that, though no single sentence expresses the full meaning, the whole together may give a sufficient notion of the thought.

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A Pure Mouth.

BY REV. CHARLES H. BRIGHAM.

"HE that keepeth his mouth keepeth his life," says the Hebrew proverb. The proverb is verified by all human experience. The mouth, of all the organs, is the most necessary to life, and has the largest office in human action and human expression. Life enters in at the mouth, and life comes out at the mouth. The body is fed, and the soul finds utterance through the mouth. The rudest work of the man, and the most perfect work of the man, are done with this organ. He has it in common with the lowest form of animal life, and he has it in common with the angels, with the absorbing polypus, and with the beings who continually sing God's praises. The mouth is the first organ through which the soul becomes manifest, in the cry of the new-born infant; and on the lips the soul lingers when the chest heaves no longer, and the eyes are closed. It is the indispensable organ. The feet may be palsied, the hands cut off, the ears stopped, the eyes blinded, and yet life may continue; but when the mouth is finally closed the man is dead. Locked jaws forbid all hope, and all the rest of the organs by their united strength can not rescue the victim.

What variety of function belongs to this organ! It eats, it drinks, it laughs, it smiles, it talks, it sings, it shouts, it blows, it yawns, and it kisses; these in its natural use. Then it may be turned to other uses. A dog carries in his mouth his master's basket, and a fashionable woman at her toilet, and a seamstress in her work, plant pins in this convenient aperture, like a row of palisades. Half of the men in the world make of the mouth a chimney, sending out swift puffs or lazy currents, and others turn it into a storehouse or distillery of nauseous weeds. With not a few, the chief use of the mouth is in discharging saliva, shooting or spouting secretions, in showers more or less copious, as the Dragon of the Apocalypse, who casts floods out of his mouth. Others make of it the conduit and the catapult of fierce and explosive oaths, and come to find swearing with the mouth almost as natural as the barking of a dog. The mouth is the Proteus of the face and the body, and has the power of double function, may appear simultaneously in two or three characters. Its smiles may bely its words, even when these are uttered. It may eat and talk together. It may hold an aching tooth while it sings a joyous note. It may roll tobacco as a sweet morsel under the tongue while it is preaching purity and salvation.

And no organ so much as this ministers pleasure and pain. Through the mouth comes in the larger part of all sensual delight, not the gross only, but the refined as well. The *bouquet* of wine as well as the flavor of beef and mutton, the bitter of herbs as well as the sweet of juices, the reviving aroma of steaming teapot not less than the stimulating chill of ices, all appeal to the senses through the mouth. The mouth not only conveys food and drink to the craving internal organ, but arrests on the way the delight of food and drink, and turns the appetite into joy. And it disciplines the body, too, into endurance and self-denials. The sharpest of all pains, most vexatious, most trying to bear, one might almost say, most frequent of all pains, comes in the mouth. Medicines leave their sting and dentists do their most tormenting mischief in the hall of the house. The troubles of the mouth bring constant dread and foreboding. The misery of the drawn tooth is not all in the short operation, but in the long weeks of agony borne, and fear of greater agony. And as a speaking or singing organ, no other gives so much joy or praise as the mouth. What sport to the speakers and what sorrow to the hearers in the fluent discourse of a member of Congress, or the pious drawlings of some weak brother or sister, who utter the voice of the spirit in the assemblies of the righteous.

And as the sign of character the mouth is not the least important of the features. It expresses soul by its form and habit, not less than by its uttered word. It modifies the expression of the other features, and often wholly changes them. How many faces there are which have a wholly different expression when the mouth is covered from sight! It is a disadvantage of a heavy beard, that it hides what the mouth has to show, while it smothers what the mouth has to tell. Certain styles of mouth are as unfailing in their demonstrations of soul as the barometer in showing atmospheric weight, or the thermometer in showing atmospheric heat. We know what to expect from a man whose mouth is always open, as well as from one whose mouth is always shut. The twisted mouth suggests a

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kink in the mind, the pouting mouth a surly or sullen heart. A large mouth indicates a love of good cheer, with a free and jovial spirit, a small mouth hints of a large self-esteem, with perhaps a suspicious soul behind it. It is not safe, however, to judge of character wholly or mainly through the shape of the mouth. There are men who show as bright a row of white teeth when they talk as Carker, Junior, who are yet not demons; there are men who have as bland a smile as Pecksniff, who are yet not hypocrites. The "all-speaking, omni-mouthed, all-eating Dunbar," celebrated in a Harvard poem of eighty years ago, was not an over-bearing or a sensual man, but a mild and excellent minister, who died in the fame of sanctity. Eli in the temple could tell what the excellent Hannah meant, as she was praying, by watching the movements of her mouth; it would not be so easy to interpret the sentiment of worshippers in Christian temples, as they perform their prayers in silence, and move their lips mechanically. Prayer has its formal and fashionable expression.

There are *three* factors in the work and influence of the mouth, the *lips*, the *teeth*, and the *tongue*. The inner palate helps also in the joys or pains which come through the organ; and the throat and larynx beyond are also essential to the work of the mouth, as the trunk to the leaves and branches of a tree. But all of the mouth that a stranger sees or wants to see, is in these three factors, or *four*, if we would separate the lips, as the fashion now is to separate husband and wife, and give them a double interest and a diverse office. No one wishes to see much of the inside of his friend's mouth, or to look far into the channel beyond, unless he is a medical man, in search of some lesion or some malady. The sweetest singer becomes hideous when her mouth is distended and shows as an "open sepulchre." One is not to be blamed for yawning on occasions when the speeches are tiresome, and the air is poisoned by an over-dose of carbon; yet a college president loses dignity in exhibiting the cavity of his spacious mouth too often and too broadly before an audience on Commencement day. The eye of an observer ought not to get far beyond the outer court of the mouth, where it communicates with the world, and not to pry into its secrets, whether the palate be of blushing flesh or of brown gum, and whether the tonsils be smooth or bulbous. The lips, the teeth, and the tongue are the media of communication of the mouth with the outer world.

The *lips* are always in sight (when not covered up by hair), and claim our first attention. We shall not discuss the question What is the handsomest style of lip, or what is the normal lip for the healthy man. There is no rule of health and no rule of beauty in this matter. A short upper lip is thought in some quarters to be "aristocratic;" but this is a democratic land, and men are not to be valued by the scornful curl of this upper lid of the mouth. A thin lip seems to show delicate blood; yet the Cleopatra of story is not less royal, that she is moulded with the thick lips of the Negro race. The heavy and pendant lip of the most famous of American female orators does not prevent the fire in her eyes or the ring of her strong voice. Some praise lips of high color, and would have them "like a thread of scarlet," as they were in the love song of the Canticles; would paint them like the lips of the favorites of Eastern harems, and keep in them a rosy blush, even when they are thin and wrinkled. Others prefer the pale lips which tell of the lily, and prophesy of a spiritual and saintly soul, living in holier air than earthly air. To some the lips are most graceful when they fit sharply together, edge to edge; while to others they are most shapely when the upper closes on the lower, as the cover upon a casket, hiding its rim. Not many favor the shape of the under lip sliding above the upper, as the acorn is held into its cup.

But tastes vary in lips, as in other features, and inexorable Nature will not change her decision to suit any taste. A thick lip can not be sliced or pressed or drained into grace, and a thin lip becomes full only when disease distorts it, or cold or wounds swell out its tissues. There is no practical aid to Nature in the adjustment or ornament of lips, whether by compression or cosmetic. There are African tribes in which the lips are bored and hung with rings and pendants. This custom has not yet been borrowed by civilized nations, even by those who mutilate the frame, and wear rings in the ears and mail upon the chest. Possibly this African fashion may yet become Christian. Some royal virgin may be born with a deformed lip, and to hide it may suspend a row of diamonds along the front of her mouth. Straightway the decree will go out, and precious stones will make pendant moustaches for the blushing fair. Until that time a clean lip will be the best style for the sex which have no hirsute covering for shade and protection, and that will be gained by clean water rather than by dangerous dyes and depilatories.

There are risks and disorders to which the

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lips are exposed, and some of the most painful annoyances come in this part of the body. Carbuncle chooses this tender place for its poisonous attack. Cold swells the lips into sores, and the ringworm draws its hateful circle on this sensitive surface. Without profane and vain babbling, such as Paul rebukes in his pastoral letters, canker will eat into unwilling lips, and their covering will dry and crack. But care may save one from many of these troubles. Some kinds of food are poisonous to the lips; one man always pays for his enjoyment of the pineapple, whether in the crude fruit or the disguised essence, in swollen and sore lips; it is for him to eschew that joy in any and every form. For another, acids spoil the lips of their soundness and color; and they should accordingly be shunned. Some due attention will show to every one what are annoying and what are injurious appliances for these doors of the house he lives in, and teach him what to avoid. Swollen lips are not only uncomfortable to the sufferer, but they add to his pain the mortification of knowing that he is a disagreeable object to those around him. A small swelling here may deform the whole face of the man. And black patches of plaster only vary the painful ugliness. A swollen lip seems to bring one into the category of ruffians, who wear this badge of their unlawful calling.

The lips protect the *teeth*, hide their defect, and shield them from injury. In these last years the teeth have risen into commanding notice, and have become surgically, commercially, in æsthetics and in hygiene, of the very first importance. Dentistry is by eminence an American art, and its professors rank with men of science and men of letters, and are privileged to hold the jaws of kings and princes, of popes and cardinals. We have special schools of dentistry, which give degrees; local and national societies, which hold imposing conference and pass strong resolutions. Teeth are made singly and in blocks, handsomer than Nature, and are an article of merchandise as precious and as ready to hand as ivory or porcelain. The skill of the moulder and the craft of the baker are used in this industry. The dentist, like the lawyer, has made himself indispensable, and almost gets a retaining fee from his clients. There are those who have their teeth examined every quarter or every month as regularly as a Catholic goes to confession. Not a few who are slow of speech and harsh of voice, have as just a claim to the name of "Chrysostom" as the eloquent John of Byzantium, and others carry more gold in their mouths than they can keep in their pockets. Indeed, the opening of many a virgin's lips discloses metallic wealth which might encourage an experienced miner, or hint of an ample dowry. The Syrian damsels carry their gold in their braided hair, but the damsels of the West hide it in the seams and crevices of their mouths, and are betrayed by their smiles and their speech. The "*auri sacra fames*" is not likely to go with many ungratified, for want of gold in the mouth to appease the hunger.

It is quite right that the dentists should magnify their office, when so large a part of human happiness or misery depends upon the condition of the teeth, in old age as in youth, in life at home as in life abroad. A handsome set of teeth is certainly beyond price, and worth more than its weight in gold. No face with this ornament can be altogether ghastly, even in the ravage of disease, or worn by much pious and penitential musing. No face which exposes broken ranges of teeth, isolated tusks, with chasms between them or blackened stumps, can seem beautiful more than a newly cleared lot in the Western forest, or than the forlorn crags of a Jersey beach. The singer of the Canticles compares the teeth of his beloved to a flock of shorn sheep; but the flock is a full Syrian flock, where all move in close ranks and obedient to the shepherd's word, and is not a few stragglers, browsing each on its own account. An old man who has kept his teeth sound, has laid up better treasure for his days of decay than any money in the strong box or any certificate of stock. He saves his voice, his digestion, and his youth by that fortunate investment. Eating does not become pain and weariness, nor the "grinders cease to work" because they are so few. He can still sing the praises of the Lord in a tone which shall harmonize with the musical chord, and shall not drop to a feeble and piping crack. He can keep vowels and consonants in their place, and even, if he will study with hope of success some foreign tongue like Welsh or Russian, as the great Goethe in the years of his decline. A lawyer with good teeth has great advantage before a jury; a preacher with good teeth can do more before a congregation to convert souls than a preacher with bad teeth, even if he speak as with an angel's tongue. St. Paul had weak eyes, or was near-sighted, but we may be quite sure that the Apostle to the Gentiles had a good set of teeth, else he never would have gathered so many churches.

Good teeth are in some sense hereditary, and belong to some races more than others. The

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"proud Caucasian" may envy the Negro his rows of ivory, so white and so symmetric, which make him a light in the darkness. Often in aristocratic houses the teeth begin to crumble before the period of childhood has passed, like the walls of Chicago houses before the roof upon them is complete. That ancient proverb of the children's teeth on edge, because the fathers have eaten sour grapes, is realized in other ways. The excesses of fathers entail this loss and disgrace upon their children. The debauchery of one generation makes work for the dentist in the generations which follow. No amount of care and caution can save the premature loss of teeth when the seeds of early decay have been sown in the constitution and in the currents of the blood. All external dangers together are of less moment than this constitutional tendency. Teeth may be knocked out by railway accidents, or by falls on the ice, and the aggregate of losses from such causes is something frightful. Teeth may be loosened and destroyed by overwork, as by the gum-chewers in the schools, and the tobacco-chewers everywhere. Teeth may be rotted by eating too much sweet or corroded by too much acid, or broken by cracking nuts. But all these causes of injury together do not account for the bad teeth that are a fatal legacy of the Saxon and Latin races. Wine and luxury, and late hours and nervous excitement, have a much larger share in this work of destruction. We are not to expect good teeth, regular, or sound, or beautiful, where scrofula lurks in the system, or where the bones of the limbs are as reeds. The age of a horse is discovered by his teeth, and the soundness of the human frame can be detected with even more certainty by the same decisive sign.

The third member of the triad of factors in the mouth is the *tongue*, a little member of the body, but one which does a large work and makes a great noise in the world. The tongue is before all else the talking member, but it has other important service. It tells by its color and coating the state of other organs more deeply hidden, and shows what disease may be lurking in the system. It is an organ which ought to be modest, and not court close attention—ought to reverse that proverb about little children, and be heard rather than be seen. A tired and panting dog may be allowed to carry a lolling tongue, but this is not in its right place, as it hangs beyond and over the lips of man or woman. In such a position it indicates a lazy will. The tongue that shoots out through the lips, too, seems to throw venom, or to "speak deceit," as Jeremy phrases it. Indeed, that small, fleshy, flexible organ has no end of metaphor to describe its function. It is a sword, a razor, and a pen; a bow, an arrow, and a dart; a tree of life, a consuming fire, and how many more things! It gets credit and it gets discredit in proverbial speech. There is an old French maxim that "a woman's tongue is her sword, and she does not let it rust;" and Juvenal tells how "the tongue is the worst part of a bad servant." On the good or bad condition of the tongue depends a great deal of human comfort and efficiency, whether the utterance shall be thick or thin, distinct or stammering. It is in good condition when all its muscles can play freely, when it can move unimpeded in all directions, when it can search the teeth, can cleave to the roof of the mouth, can regulate the flow of air, can make itself a cup; when its sense of taste is keen, and it can defend the system against unwholesome viands or draughts; when, like the friends in Virgil's pastoral, it is alike ready to "sing and to answer." A tongue in good condition has no bound to its ministry of good, but a man with an ill tongue is always, as the wise son of Sirach describes, this a nuisance and a danger in the city.

But we tread on hazardous ground in these speculations about the tongue, that dear instrument of gossip and slander, and back-biting, of scolding and complaints, of cry and harangue, which may preach or blaspheme, may be tongue of nighthawk or nightingale. All these fancies make preface for a few practical suggestions and advices. How shall we have a healthy, or to use the old English epithet, a "righteous" mouth? There are several good rules to remember:

1. *Keep the teeth clean.* Not an original suggestion, but one which loses nothing of its value by much repetition. Use the brush once, twice, or thrice each day. Remove all food from the teeth when meals are done. Vegetable mould and animal decomposition may enrich the soil, but do not sweeten the mouth. Ordinarily a brush with water is enough in this use, and sand and alkalis may be omitted. Charcoal and sand are worse than penance in the mouth, and may bring a renewal of the Hebrew lament, "Jehovah hath broken my teeth with gravel stones." And in general, the first rule for a sweet and wholesome mouth is to have the teeth sound, their cavities filled, their surface pure from stain, and a free passage between and around them. No amount of aromatic essence, roots or lozenges, can purify a mouth which is

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full of decaying bone, or sweeten the air that comes from such a charnel house. From such a mouth even the whispers of love are as deadly breath. Clean teeth are closer to the soul even than clean hands, which go with the pure heart.

2. *Avoid from the mouth all irritating, acid, and corroding substances,* rough metals, iron and copper and brass, any thing that may lacerate or ulcerate the mouth. It can not be too strongly urged that a knife of any kind, large or small, has no business in the mouth; the Arkansas blade is a "toothpick" only in metaphor. The mouth is not a fit reservoir for buttons or pins, or money. Many of the mineral remedies, once so much in favor, did harm enough in the mouth to neutralize all their good in the blood. Metal and mineral should be "exhibited, in the mouth in invisible Homœopathic qualities, if allowed to go there at all.

3. *Refuse food which is nauseous in its odor, or leaves a strong and unpleasant flavor in the mouth.* Only a depraved social state will bear a constant dispensation of garlic and onions, however good these may be in digestion. All the prayers of the Spanish churches will not purify the mouths of the people, so long as they feed on these pungent herbs. There ought to be many spinsters in the town which makes its boast of its "geese, girls, and onions," and grass ought to grow in its streets by way of an antidote.

4. *Do not eat opium or chew tobacco.* In spite of the arguments of Dr. Hammond and Mr. John Fiske, it will be impossible to make any unprejudiced person look for a clean mouth where the quid is rolled as a sweet morsel. No tattooing of savage is more frightful to look upon than the flowing rivulets of yellow juice from the corners of the mouth. One who will smoke his pipe, too, should keep back from the conjugal or parental kiss, and reconcile himself to a celibate life.

5. And *finally the mouth should be often ventilated and cleansed,* by breathing fresh air and washing with pure water. Always in the morning; a bath for the inside of the mouth is as necessary as for the outside. Always after a meal; to clean the mouth is as fit as to clean the table. Laughter is as good for the mouth as for the chest and diaphragm, and a reasonable fluency of speech, too, saves the mouth from corruption.

More might be added, but whoso will keep these counsels will not need any more. We may believe that a man is defiled by what comes out of his mouth rather than by what goes in; yet, after all, one is safer whose mouth is wholly clean.

Making Haste to be Rich.

BY REV. GEORGE H. HEPWORTH.

IF called upon to designate the happiest man in the community, I would look for him not in the ranks of the wealthy, nor in those of poverty, but in that middle class, that laboring class, which is neither rich nor poor—a man who has no better hope than constant labor from youth to age; and yet who, in constant labor, will find health and happiness.

The rich man has aches and pains, care and anxiety; while the poor man has ease of body, and an abundance of vitality, for the loss of which there could be no earthly compensation.

Many a merchant down town would give three-quarters of his millions, if he could possess the health of the porter in his store; and he would give the other quarter if he could commence life again, and live it on higher and better principles.

The great error of many is, that they spend their time in making money, without exercising any care with regard to their physical condition. In their eager quest for wealth, to gain the shelter of a four-story brown-stone front they sacrifice that which is worth more than gold—bodily health, peace of mind, and length of days.

In England, so careful is the mother of her boy, so regardful of his health, that he learns to take a pride in his body—is grandly proud of his physical prowess. He boasts of the weight he can lift, of the miles he can row or run, and of the labors he will achieve when he shall have grown to be a man. When he arrives at eighty

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years of age he will still be tough and fibrous, and capacitated for a great deal of enjoyment.

In England the boys go on to the green sward, and engage in cricket and other sports that tend to the development of the muscles; and thus they gain strength to meet the battle of mortal life, and are better able to engage in the commercial activities that await them. There the teacher cares no more for the mastery by the pupil of *a b c*, than for his erectness, his muscular development, the way in which he stands or walks or runs.

Here we have no gala days, no breathing times in all the weary round of the year. We only stare with wonder when we see the athletic performer's glorious deeds.

The commercial integrity of men depends more upon their bodily constitution than is generally supposed. The first condition of commercial honesty is a good, hearty, wholesome body. He who has it not is in danger.

The religion which goes with dyspepsia is not worth having. A man whose body is all out of joint, neither knows nor dreams of the beauty of that victory to him who wrestles and wins.

The reason why men generally care so little for their bodies is, that they are in a frightful hurry all the while. It is business that first looks them in the face in the morning, enslaves them during the day, and when night comes they retire, weary and worn, to imperfect rest. They expend all too soon the vital energy which should be husbanded, and grow old at fifty, gray headed at fifty-five, dead at sixty, and in two months are forgotten.

The old motto, "Slow and sure," is the one to be adopted, and not "Hurry up and run the risk." Make your money honestly, make it dollar by dollar, and then you will know how much it is worth.

When looking out and seeing how busy men are, the story comes to mind of the traveler, who, in the street of an Eastern city, surrounded by beggars, threw at them some small coins of the country. They jostled each other, grew angry, tore each other's garments, and in the eager excitement, wronged each man his neighbor.

God does not tell a man not to go into business. It is the duty of every man to work at some thing; but his labor should be done in a manly way. If life is like a game of chess, and business demands that each man shall play his pieces with care, when victory crowns his efforts God will smile upon his success. If life is a grab game, self-consciousness the only motive, and success to be achieved by only those with the longest arms and firmest clutch, then business has become demoralized.

Girls are no longer girls in this country. At an early age they are thinking of "conquests" and polite phrases, instead of trying to become useful in the world. They think but little of any accomplishment which has not for its aim a "settlement" and a contract, leaving out of the question a consideration of all the finer feelings. There is too little that is solid, too little that is worth the having, too little that accords with the Christian religion.

The dream of the American is to be rich in twenty minutes. Slow toil and slow progress do not suit his ambition. If not speedily successful in his eager grasping after wealth, he will grumble over his bad fortune, and take no pleasure of his life.

The business of this city is top-heavy. That is why it is killing men. There must be brownstone fronts, carriages and servants, splendid apparel, dinner parties, and many other expenses. Humility is not one of the virtues of this metropolis. The man who lives on a small salary has the pith and vim in him of which martyrs are made. As men live there are a thousand channels of expenditure, and to meet the demand business is increased beyond its legitimate circumference—so spread out, in fact, that sooner or later there must come a crisis. There are many men in New York who do a dozen times too much business for their capital. They are devoted to their families, but they make great risks in business. If good luck comes, all right; if not, then worry, and being worn out.

What is needed is calmness. He who frets and worries may sacrifice his honor, when, if he were calm, he would hold his honor nearer to his heart. Men should infuse into their lives that moral ambition which would compel them to keep rich; to take a holiday and go into the country—to play with their children two hours every day. He who keeps on the bend all the time must break. He who rests occasionally may work with a fierce ambition, and then fall back.

The hurrying propensity of New Yorkers and its contagiousness, may be illustrated by an anecdote of myself. Shortly after coming to the city from Boston, I started, in idle wandering, down Broadway. Stopping at a shop window, I looked in for five minutes to observe the different kinds of goods arranged there; then passing on I looked into the next, but not so long, for I had begun to feel the magnetism of the people hurrying by. Into the next window I merely

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glanced; I began to feel in a hurry, hardly knowing why. I joined the people who were hastening down the street; irresistibly impelled to go faster, faster, and then just as fast as I could without breaking into a run; not caring where I was going, only that it was *somewhere*, and as quick as possible. At length I found myself at Fulton Ferry—hurried on board the boat, and to the further end, looking toward Brooklyn, just as Columbus looked toward America, and as if it were the promised land. When the boat was a dozen rods from the pier I stepped over the chain; when it approached to within ten feet, I wondered how far I could jump; and when it was about three feet from the pier I *did* jump, being still in the midst of a rushing crowd. Finally, I came to a stand several miles away from home, breathless, and nearly tired to death. This was but an illustration of the daily life of business men of New York. There is hurry in the air, hurry every where. Every ten or fifteen years there must need be a reinforcement of people from the country to take the places of those whose lives are worn out by this tremendous hurry. No wonder men are nervous and fretful. No wonder they exhaust their vitality so soon, and get so little actual compensation.

I have been to see the "Lifting Cure," and regard it as a good thing. Many people are led to avail themselves of it, because of the fact that in fifteen minutes it affords a man as much exercise as he could get in a whole day in the ordinary way. When young, my mother told me that God's blessing rested upon a healthy body. I have been accustomed to the exercises of a gymnasium, and can work all day, and occasionally all night, without experiencing any bad effects; though it is best that there should be regularity and moderation in all exercises, mental or physical.

Men are living so rapidly that there is danger in the future, even if there is no sickness or disease in the present. It is not easy to guess the ages of people here, because those young in years are old in looks. The life many live draws on their nervous energy, and they are not so strong in body as they ought to be. Most people work too hard. Editors, particularly, work very hard. A few hours after the death of George Peabody, the journals here contained lengthy biographical sketches of him, twenty-four hours before any thing of the kind was published in England, where he died.

Manual labor never hurts a man. Excessive brain labor kills. Over-exertion of the mind is sure to bring disease, and a premature death will follow. Hurry and worry do more to disturb the vital economy than any thing else; and when his body is diseased, a man can not be at peace with himself or his neighbor. The most quarrelsome people are generally those who have a war in their own members.

If fathers would be boys again, and mothers would be girls again, finding release from care, and be as joyous as in the days gone by, they would be healthier in the tone of mind, spirit, and body.

A feeling of irreligion is generated in the minds of people by their bad method of living. Business men can not stop to say their prayers in the morning, and at night they are too tired to do so before they drop to sleep. Business so wears upon them that they are old in appearance while still young in years, and dead when they should be in their prime.

The moral result of this haste to be rich is worse than all else.

A poor young man, in a neighboring city, was admitted to a business position in a bank. Dollar after dollar passed through his hand, year after year went by, and he was honest; but the days came when he was overworked—when he toiled hour after hour while he should have been asleep; then in a moment of weakness the dollar stayed in his hand, till at length the first dollar grew to be fifty thousand, and his crime was discovered. The disgrace bowed down his wife and mother with grief, and sent his poor old father a premature grave. One cause of the commission of the crime was that the demands of society was so great, he could not live honestly on a thousand dollars a year. Spending more than he should he yielded to temptation, and now is in State prison. Doubtless another cause of the criminality of this young man was a morbid physical condition, which would not admit of a healthy tone of mind.

A man can bear temptation a thousand times better if he is sound in body, than if he is nervous and dyspeptic. A man with dyspepsia can commit any crime under heaven!

Boys should not have their boyhood abbreviated; they should strive for a good development of their bodies, and be able to boast of their physical endurance; they should have no ambition to enter into commercial life before they are fitted for it.

The best advice for all men is to get good health as well as religion—for the better the health the better the religion—and while this religion is a part of your lives, fills your hearts, and casts a gleam over your ledgers.

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Key Thoughts.*

BY F. B. PERKINS.

IF I were wise enough I would draft a perfected code of living, for mind, body, and estate; a sort of universal everlasting sermon, that any body could consult under any circumstances, and, in the proper place among its subdivisions, find exactly the I-don't-know-what which he was desirous to have said to him.

I am, at any rate, wise enough not to undertake this. Yet, in one sense, I have wisdom, and two years' interest on it. Martin Luther, for some things the greatest of the Germans, among his many memorable sayings, put forth this—it is one of the phrases that you can not help wishing you had thought of yourself: "He that is not handsome at twenty, nor strong at thirty, nor wise at forty, nor rich at fifty, will never be handsome, nor strong, nor rich." Consequently, since I am forty-two, I have all the wisdom I am going to have, and two years' interest besides.

—

What I propose is, a very short scheme of philosophizing, with perhaps a sort of scientific form, and a single rule which can be used in applying the principles—a bundle of Key Thoughts, and a caution how to handle them in trying to unlock Life-Problems. How they may suit other people, remains to be seen. For my own part, I have used them for a long time, and with a good deal of convenience.

1. What is Life?

Reduced to its furthest and fewest elements, I do not see how you can get rid of these two:

1. Life is Activity.
2. Life is Enjoyment.

2. What are the Limits of Life?

1. Time.
2. Space.
3. Ability.

3. With what has Life to Do?

(Besides myself,)

1. Thoughtless Creation.
2. Humanity.
3. Supreme Being.

4. What is Man?

1. An Immortal Soul?
2. A Perishing Body?
3. No. He is both together—neither alone—at least, for the purposes of my discussion.

Practically, in this world, as I find it necessary to consider him, man is

1. A Soul;
2. In a Body;
3. Entitled to enjoy;
4. Bound to help others,
5. And subject to a Supreme Being.

—

There! Not one of those points are new, but I believe that they constitute a system, and that a whole system of human life could be framed into a diagram of which they would constitute the chief divisions. In a certain sense, my thirteen short answers contain, all boiled down to the uttermost, God, the Universe, and Man.

—

Lastly, my rule.

People Differ.

This is about as important a doctrine as can be stated, for practical purposes.

"Why, of course they do!" says somebody. "This is a free country. We all know that. Is your wisdom made up of such scrap tin as this? Every ditch is full of it."

Softly, my dear sir. You are a democrat, are you not?

"Yes. I don't see how any body that is n't foolish or dishonest can be any thing else."

I know you don't. But I do, for I remember that *people differ*. And if I remember right, you are a Calvinistic Presbyterian?

"Yes. It seems to me impossible that any fair-minded man, with an enlightened conscience and a good knowledge of history, and who lives in prayer, should fail to see that this is the doctrine that the Bible teaches."

I know it seems so to you. But I can see how just such people as you describe can think differently. *People differ*. Do you ever eat meat?

"I do, indeed. Twice a day, and sometimes more."

* I propose to follow this paper with a few brief subordinate discussions or talks, not so as to depend on each other by stopping, just as the hero tumbles off the precipice, with the words, "At this tremendous moment——[TO BE CONTINUED IN OUR NEXT]"; yet so as to be capable of grouping on a consistent plan. F. B. P.

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And don't you think a vegetarian is an ass?

"Yes, I do!"

I don't though. Some find a vegetable diet extremely healthful. *People differ.* You take a smart cold bath every morning, don't you?

"Always. It must be a dirty fellow that does n't. It keeps me bright and well, too."

Yet I know an abundance of people who do not, and are delicately clean. *People differ.* Do you read a good many novels?

"No; none at all. Mere dissipation of the mind; a foolish waste of time. I would burn every novel in the world, if I could."

And make all the young folks read Butler's Analogy, for amusement, as Queen Caroline used to, would'nt you? And you can't see how any one of natural good sense can permit themselves or others such wasteful folly. Because it is folly to you, my dear sir, it is not necessarily folly to every body else. *People differ.* Novels contain, for a great many persons, a great deal of real nourishment; mental philosophy, good feeling, wit, history, poetry, ethics, even religion; a varied and efficient stimulus, as well as amusement, for the mind.

Conversation like that could be prolonged indefinitely. All I want to show is, that political parties are based on differences of character; so are sects; so are modes of diet, preferences in employment, and habits of reading.

The only real objection to this doctrine, however, is one which does not touch its truth. It is this: if it be so, no one can find any good reason for trying to make converts to his opinions, and you destroy one of the most powerful springs to mental activity and of efforts for reforms and improvement.

Without plunging into the depths of the real reply to this argument, I shall only observe, that there is no danger of its becoming true at present. When people in general are becoming too tolerant of differences for their good, it will be time enough to seek a cure for the evil. Meanwhile, no one who remembers that people differ, and understands it, will get angry in arguing, or think ill of those who differ from him in belief, or despise those whose habits are other than his own. The doctrine that people differ has a whole gospel of intelligence and harmonizing, indulgent philosophy in it. It might almost be made the central belief of a new sect. The Peopledifferarians would have as magnificent a name as the Supralapsarians, or the Christadelphians, and as practical a belief, too. Perhaps they would however grow intolerant, and be rather inclined to persecute or despise and excommunicate all who should refuse to permit people to differ. It would not be the first time that a sect would, logically, knock its own underpinning out from under it.

Without this doctrine, moreover, it is entirely impossible to understand History, Philosophy, Religion. In short, Toleration is the key to Knowledge. Since no two human beings are alike, he who believes in uniformity, and seeks to enforce it, is ignorant of the very alphabet of man. Persecution and Ignorance can not keep apart. Persecution *is* Ignorance in action.

The Peerless Pearl.

BY ALFRED B. STREET.

EARTH'S peerless pearl! it is not gold,
Though gold be showered like summer rain;
It is not bought, it is not sold,
The glittering dross but shines in vain.

The rich man marks his flatterer's bow,
And flowers rise up where'er he treads;
But suffering sits upon his brow,
And one drear waste around him spreads.

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It is not Power: the monarch sways
His scepter o'er his crouching slaves;
An empire basks beneath his rays;
Realms tremble where his war-flag waves.

But midnight sees his sleepless eye,
And daylight lights his couch of woe;
He hears the song but feels the sigh,
While smiles but gild the gloom below.

It is not Fame: her trumpet-blast
Heralds the step where'er it wends;
Carpets of flowers beneath are cast,
And incense breathes, and prayer ascends.

But discord mars the stately sound;
Totter his feet though flowers they press;
Serpents within the wreaths are wound;
Incense and praise bring weariness.

Earth's peerless, priceless pearl is Health!
Health, of all boons, most truly bright!
Pale slaves of Fame, and Power, and Wealth,
Ye bask not in its heavenly light.

A light whose lustre ne'er is dim;
On bounds the blood in rapturous dart!
Exultant strength in every limb,
While light, but vigorous, beats the heart.

No languor creeps along the frame;
No dullness weighs, no torture thrills;
No fever burns in quenchless flame;
The veins no shivering ague chills.

Ask ye where Health, bright Health is found?
Not in the realm where Fashion reigns,
Where Pleasure rolls its endless round,
Or Vice its shattered victim chains.

Not where the wine-cup's poison glows!—
O Heaven, how long; how long, O Earth,
Shall this fell serpent spread its woes,
Foul foe of all of mortal birth!

Ah, could the frenzied tears and cries
Caused by the cup be blent in one,
The bolt would rend the shuddering skies,
The flood would blot the sorrowing sun!

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Ye ask, O Wealth, and Fame, and Power,
Where the grand blessing, Health, is found!
Not in bright room, or rosy bower,
In the gay dance, or tabret's sound.

Nor yet where downy couches speak,
In tempting tones, for sleep and dreams;
Though Sorrow there forgets to wreak
Its strength, and Fancy's moonlight gleams.

But where live breezes fan the hills,
And waves the tree, and waters bound,
And music swells from warbling rills,
There Health, there glorious Health is found!

Go seek the god where crimson hues
And brightening lights the sun foretell;
Where blossoms bend with diamond dews,
In flowery field or shadowy dell.

Go seek him where the north wind sweeps
The snow-flakes through the misty day;
Go seek him where the cataract leaps,
And showers its gifts of gladdening spray.

Go where the wild sea hurls the bark
From wave to wave, and blasts are loud;
Or where the forest's ladder dark
Leans on the crag that smites the cloud.

And while thine eye sees Nature's charms,
Thy heart feels Nature's pulses beat,
Health will uplift thee in his arms,
Kindle thy veins and wing thy feet.

And Epicurean feasts beware,
Let not wreathed Circe tempt the taste!
Roses but hide a deadly lair!
The mirage vails a dreary waste!

The faint blood feels no more its play;
The dull brain lies in lethargy;
Health flees at length in dread away,
And life is but a blighted tree.

Ho, Health! come, Health! Health, first of all!
Fame, Power, and Gold, your sway is naught!
Come, Health! what blessings heed thy call!
With earth's best boons thy reign is fraught!

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The Mask of Character.

BY JOEL BENTON.

OUR souls are remote neighbors at best. No intimacy can fuse the genialist, for, consciously or not, each drops the vail which screens it from the world. What we term Individuality distinguishes the unit from the race. It is mountainous in Plato, Goethe, and Napoleon, but marks also the average man. Over humanity in the aggregate, what a dead prairie level! "The virtue in most request," says Emerson, "is conformity." Society polishes away angles, and would make all of one pattern, but where we escape here and there, and assert ourselves, we put in visible print the traits which make *Character*.

To read this is the riddle of the Sphynx. We can fathom only imperfectly the motions of a mind. It is said of such a one, he is noble, or generous; of another, that he seeks base and sinister ends; but these words, instead of translating the soul, give merely, by very clumsy methods, some of its seemings. A few adjectives report for every community the men it has measured. We are challenged with a life that, for thirty years, no enemy has ever been able to impeach. But to-morrow there is a defalcation in the bank, and lo! its pious President is missing! At yesterday's tea-table this man was lauded for goodness no words served to express. We discuss the news which bewilders us at dinner to-day, and do not mince the phrases that disfigure his fame. But, *Nemo repente fuit turpissimus*. This character was only hidden, and we speak as if it had suddenly sloughed away. The flaw was in the metal from the first that broke down the strong column of the edifice. "No one," as the proverb intimates, "becomes suddenly very base."

Shakspeare is so deep because of his fathomless perception. Not in Stratford alone, I suppose, but in his whole experience resided the microscope from which he pictured the world. His pages make a sort of mental stethescope, which reports the mind and motives of the race. What a piercing, transparent eye he must have had among men; yet, while he could multiply types—roystering princes, bragging Falstaffs, and villainous Iagos—that he was so sure in the particular individual always, I doubt.

Seeming and *being* are the poles asunder. Few men live without making pretences, though they be unconscious. Mr. Thoreau, among modern notable men, is the most bracing character. He refreshes us by his sturdy, imperturbable assertion of his inmost self. The visitor at Walden needed no letter of introduction, except that which Nature had already provided; and his welcome, if not in courtly guise, was yet real, and raised no question. Though he stood on the heavy-carpeted floor of a Fifth-avenue palace, circled about by smiles and complaisance, he could not be so sure of hospitality.

We have spoken of a character exploded by crime. Instances more striking occur. The common-place man of a town sometimes blazes up suddenly into a rocket, whose radiance the little township will never more confine. The good people of Springfield, Illinois, thought they had a shrewd, quiet lawyer; and as for story-telling, only Esop could be his match. Did they think, or could they have been made to believe, ten years ago, that his fame was to be linked with the salvation of the Republic, and not only go round the world, but through the flowing centuries—his grave the Mecca to which future pilgrims of Freedom must wend?

The man who lived in Galena was merely a tanner and clerk, and might earn forty dollars a month. What if its citizens had been told that they harbored the greatest captain of all time, vailed by such modesty and silence as no success, no eminence can remove.

It is doubtful if the refinements and nice courtesies of civilization, which seem to bring us so near, are any help to discernment of character. In a large sense society is a game of masks. We find the plainest meaning, forthright frankness, and openness of heart, in quiet rural and sylvan districts. Ceremony, seemingly so cordial and inclosing, only bars us out. A story is told of a little girl, who was playing in the corner of the room while her father and mother were entertaining a visitor. The lady who had called was listening to criticism of another lady, who was pronounced very different from what she should be. When the visitor was about retiring, followed by benedictions and friendly smiles, the little girl remarked with great *naivete*: "That's the way they'll talk about *you* when *you're* gone."

Many readers will remember one of Bayard Taylor's letters from Lapland, in which the simple manners of the people were so uniquely

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described; the housekeeping in one room; the boundless trust in dispensing hospitality; and the maiden attendant at the bath. And withal, what pureness of thought and delicacy of feeling. It was almost as if a new Eden had been discovered, where unconsciousness of guile displaced maxim and law.

When we reflect upon the various misunderstandings in life, the false estimates put upon actions, we are driven to believe that nine-tenths are the result of ignorance of character. Our friend pains us by a remark. How do we *know* what he means? Doubtless, if we could reach his point of view, summon into our soul his emotions and intent, we should thank him, instead of feeling outraged. We blame a neighbor for certain severe lapses into vice, which he loathes more than we, and which he daily resists with strength beyond our conception. If our slender and shining virtue, which is mainly lack of temptation, could be laid bare against his, how might its lustre fade! But there is no avenue that leads directly to our neighbor's heart. We meet our most intimate, life-long friend, merely at the vestibule, and know nothing of the processes, or the mainsprings that direct them, within. It is a clumsy expedient to go as we do into our own thought, and then by guess, and hypothesis, and assumed circumstances, make something which shall represent his.

Speech does not solve our riddles, or give more than a partial communication. And then the same words are not the same spoken by another. "Good Heavens!" says Carlyle, "from the inmost Thought of a man to the eternal truth of a Thing as it lives in Nature, there is, one would suppose, a sufficient interval! Consider it, and what other intervals we introduce! The faithfulest, most glowing word of a man is but an imperfect image of the thought, such as it is, that dwells within him; his best word will never but with error convey his thought to other mind; and then, between *his* poor thought and Nature's Fact, which is the Thought of the Eternal, there may be supposed to lie some discrepancies, some short-comings! Speak your sincerest, think your wisest, there is still a great gulf between you and the fact. And now, do *not* speak your sincerest, and what will inevitably follow out of that; do not think your wisest, but think only your plausiblest, your showiest for parliamentary purposes, where will you land under that guidance?"

Our study demands the broadest rules; no large fact to be too forcibly emphasized, no trivial one omitted. We must know too, how to manage the side-lights, and when indirect traits tell most. The face is a kaleidoscope of shifting pictures, where no two are ever alike. Then there is the clear, trusty eye, and the one you can not look down in through the sediment. "A rogue will never look you in the face," says Thoreau, "nor does an honest man look at you as if he had his reputation to establish." An Eastern sage who was appointed to test the merits of Zoroaster, did not wait for him to speak, but as he advanced into the room said: "His form and gait can not lie, and nothing but truth can proceed from them."

Consistency of character was considered impossible by some of the older writers. "No one," says Montaigne, "lays down a certain plan of life; we only deliberate by pieces." And says Seneca, "It is a great thing to be always the same man." We are the sport of moods and occasions; and some whim, perhaps, dominates our most noted behavior. Plutarch says of Nero, that he was so tender-hearted when he began to reign, that, having the sentence of a condemned man brought to him to sign, he exclaimed, "Oh that I had never been taught to write." Empedocles was sorely puzzled by a contradiction in the character of the Agregentines, "who gave themselves up to delights as if each day was to be their last, and yet built their houses as if they were to live for ever."

We can not judge from the convivial hour; from a unique act; from glimpses got in the rush of affairs, or from a few occasions. If we heed the buzz of gossip, or do not sift rumors, we are lost in the outset. Candor is necessary. "Let us treat men," says Emerson, "as we do pictures—give them the benefit of a good light."

It is noteworthy that the word Love used to symbolize the religion of the New Testament, and which covers the circle of duty, is of one root with Charity. No person carries a window in his breast; and if he did, the shutters most likely would be closed. Let us not be too sure of our neighbor's fault. It is nobler, often, to extend sympathy than to impute blame—nobler not only, but truer.

We can not explain the chemistry of fellowship: we know it exists. I was repelled by the stranger when he entered the room, and foresee that no introduction will ever bring us together; yet there are persons who hold me as by cords of iron. We can not escape, if we would, this polarity which divides even the best. "Excellent people wonder," says Alcott, "why they can not

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meet and converse. They can not. No. Their wits have lapsed away and left them helpless. Why but because of hostile temperaments, states of animation?" Elsewhere in The Tablets he remarks, "Affinities tell. Every one is not for every one, nor any one good enough to flatter or scorn any; the kindest recognition being due to the meanest; even the humblest conferring a certain respect by his call. Yet one might as properly entertain every passing vagary in the presence-chamber of his memory, as every vagrant visitor seeking his acquaintance. Introductions are of small account. What are one's claims, a glance detects; if ours, he stays, and house and heart are his by silent understanding. If not ours, nor we his, the way is plain. He leaves, presently, as a traveler the innkeeper's door, an inmate for his meal only and the night."

We shift our masks, and are never alike to two persons. I may firmly will otherwise, and bestow the nicest courtesies, yet there are few who unlock my tongue. Who is not conscious of persons highly esteemed—nay, venerated—with whom he can not sit at ease? Dr. Holmes's John, in the "Autocrat of the Breakfast Table," of whom he made six: *his* John, John's John, the actual John, and-so-forth, is a witty illustration of individual many-sidedness.

Do we wonder at confusion, or misunderstanding, where each plays the harlequin to each? For, in the thickest of life, we only meet to exchange salutations in domino. The theme is fitly rounded by some sweet and touching verses whose author perceives the soul

"BEHIND THE MASK."

It was an old, distorted face—
An uncouth visage, rough and wild;
Yet from behind, with laughing grace,
Peeped the fresh beauty of a child.

And so, contrasting fair and bright,
It made me of my fancy ask
If half earth's wrinkled grimness might
Be but the baby in the mask.

Behind gray hairs and furrowed brow,
And withered look that life puts on,
Each, as he wears it, comes to know
How the child hides, and is not gone.

For, while the inexorable years
To saddened features fit their mold,
Beneath the work of time and tears
Waits something that will not grow old!

And pain, and petulance, and care,
And wasted hope and sinful strain
Shape the strange guise the soul doth wear,
Till her young life look forth again.

The beauty of his boyhood's smile—
What human faith could find it now
In yonder man of grief and guile—
A very Cain, with branded brow?

Yet overlaid and hidden still
It lingers, of his life a part;
As the scathed pine upon the hill
Holds the young fiber at its heart.

And, happy, round the Eternal Throne,
Heaven's pitying angels shall not ask
For that last look the world hath known,
But for the face behind the mask.

Growth and Development.—IV.

BY ARCHIBALD MACLAREN, OF THE OXFORD GYMNASIUM.

INHARMONIOUS BODILY DEVELOPMENT.

IT might be a task not unworthy the attention of medical men to inquire if partial and inharmonious condition of bodily development is not the cause of many forms of debility and also of some of the active ailments of life—the origin of the phrase, so pregnant with meaning, though happily not of literal accuracy, that "every man has his weak part." Indeed, I should be disposed to consider the man whose frame is generally and uniformly weak, safer than he whose frame is partially and locally strong, because natural tendency is to gauge and estimate the general strength by the power of the strongest part. And just as the strength of a rope or chain, is but equal to its weakest part, and just as the dependence will be on the general strength of the rope or chain, and its weak point be unnoted until its failure, so will the voice of the weak part of the human body be silenced by the general claims of the rest until the time of exposure and trial.

That special provision has not been made a our public schools for the full physical training of youths has arisen from no carelessness or neglect on the part of the earnest-minded men

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conducting them, but simply because it has not hitherto been recognized as a want—as a thing to be taught or directed or supervised. The very phrase *recreative* explains the whole extent of the want as at present comprehended, and the provision made to meet the want; but to the extent of this recognition it has been met at the public schools at any rate with a completeness which leaves little to be desired. Schoolmasters know from the best of all sources, practical experience, that unless boys have ample play-time and play-space the tone and energy of mind and body sink, and the school work suffers; and therefore an ample play-ground and a fair allowance of play hours, for such as will avail themselves of them, are held as important as a commodious school-room or a well-supplied table.

THE PUBLIC SCHOOLS OF ENGLAND.

England may well be proud of her public schools, for no other country has any thing comparable with them, indeed has neither the schools, nor the scholars, nor the families, nor the firesides from which the scholars are drawn. For we must go far back—far as the home-habits and home-teaching of ancestors in forgotten generations—if we would get at the origin of character. Out of England we never find boys, only little men, embryo soldiers, lawyers, and doctors, the specialties of their avocations sprouting upon them; and their schools have nothing in common with ours, present no point of resemblance. The public schools of England are to it what the heart is to the human body—the center and source of its vitality and power, the spot through which its life-blood flows, from which is distributed to every spot, near or far, the young, fresh, bright stream to strengthen, to revivify, and to renew.

I have dwelt thus long upon what I conceive to be the necessity of providing a regular system of physical education in connection with the purely mental culture of schools, because it is at this period of life, and it is under a school regime that it is most needed, and would most powerfully influence health and strength, present and future. And I have spoken thus strongly of what I conceive to be the error and danger of exclusive or undue culture of either mind or body, because it is at this period of life, and it is under such circumstances, that the deepest and most lasting impressions are received and the most enduring tastes and habits acquired; habits and tastes that will almost inevitably be carried into succeeding stages of life, and be intensified at every stage. In the University this is markedly the case; here the youth who at school devoted his time and his thoughts exclusively to study, leads an existence still more artificial, now become to him almost a natural one, for the law of adaptability smooths down many things that are irksome when first essayed. Being now free, or more correctly speaking, having now none to overrule and few to advise, he follows his own inclinations, and this the more keenly that these are the same which have already guided him to distinction. He came up with a school reputation for ability, and this must be preserved, must be confirmed and extended, for school honors are not the fee, only the earnest-money of the bargain yet to be fulfilled; its *eclat* is not only the god-speed encouragement at a hopeful starting, not the congratulatory cheer at triumph gained. And no one knows this better than the youth himself, and better than himself no one knows that not by talents alone, not by genius alone, was he enabled to plant his foot on the vantage-ground which he occupies, not by these, but by labor; and knowing this he believes that what he thought necessary before to win, is no less necessary now to keep; so the old rule of exclusive brain-work is re-begun. All the early day he reads; only in the afternoon does he go outside the college walls, and then only for a hurried, feverish walk—a very nightmare counterfeit of true exercise to the wants of a frame like his. His lamp is lit at the setting of the sun and scarcely extinguished at its rising. Does he never think when the wick is burned down and the oil is consumed, when the one is renewed and the other is replenished, does he never think, I wonder, as he sits with the wet towel round his forehead and sips his green tea, stimulating and urging the weary brain to greater effort, that the lamp of life within *him* needs trimming and renewing?

EXCESS OF PHYSICAL CULTURE.

What is the other extreme? for we read in evidence laid before the Public School Commissioners that boys who expect to excel at cricket must spend seven hours a day in the cricket-field. "My boy shall cultivate his body." Parents may have their wishes in this direction *carried* further than they anticipated. "My son spends his days on the river," writes one to me, a clergyman with his quiver well filled; "his success in life depends on his success at Oxford, and I tremble as the time approaches for him to go into the schools.

These are two extremes, but they divide not the university between them. The devoted

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bookworm and the devoted athlete are equally removed from another class—a fast diminishing one let it be thankfully recorded—a class which cultivates neither mind nor body, with whom the day is frittered away and the night dissipated, with whom time passes without purpose, or profit, or pleasure; at least such purpose as a man should deign to pursue, and such pleasures as he should condescend to accept. Nothing now, leading to nothing hereafter; the mental advantage nothing, the physical advantage something less than nothing. "Why cumbereth he the ground?" Year by year, term by term, this class is diminishing. Year by year, term by term, its antithesis is increasing, the true class, the true men, the men well worth devoting life to form, the class well worth devoting life to increase. For as the bookworm had his antithesis in the enthusiast athlete, so has the idler his in another type, in the man who feels that he is a man, a man with a body as well as a brain, muscles as well as nerves, and who has no intention of sacrificing either to the other, or either for the other, even if such immolation could be to its advantage. But he knows to the contrary, he feels to the contrary. He feels and knows that by friendly rivalry and interchange of labor and of rest both are benefited; that each may be fully cultivated without infringement of the privileges of its companion, but rather to their mutual gain and well-being. Therefore he has no intention to hazard brain-fever or break-down of any kind from reckless mental effort, just as he has no intention to subject himself to the ignominy of a possible failure in the schools. He has no faith in delaying until the last minute and then as the phrase goes "reading his head off." He has still less in "passing by dint of gook luck." And he has least of all in trusting to "natural sharpness," which on mythical occasions is reputed to have "floored the examiners." He knows that there is a given amount of work to be done in a given time, and he knows he can do it if he begins at once, and with regulated effort works steadily on to the end. And this he means to do, and this he does.

I select for illustration the Universities thus specially, as they are perhaps more distinctly an extension of school-life than the early stages of any of the professions or callings which imply intellectual labor for actual employment; and because it is there I have been able to test by practical observation, over a very long period, the opinions I now venture to advance. A complete change in a boy's habits we occasionally see, an utter reversal of all antecedent tastes we sometimes hear of, but, in a great majority of cases, school habits and school tastes become consolidated and confirmed into traits distinguishing more advanced life. In more senses than one "the boy is father to the man."

In the second stage, the one immediately succeeding school-life, while the upward growth although nearly at its close, is still going on, an amount of benefit, second only to that obtainable in boyhood, may be obtained from the regular practice of systematized exercise. It matters not whether the youth be reading for a University degree, or has passed at once to his future profession, his frame is still growing, still changing, still pliant, still impressionable, still liable to be checked in its natural development, and stunted or turned aside from its true proportions, by inactive, sedentary, or exclusively mental pursuits, and still capable of having growth and development powerfully stimulated, and still susceptible of being rapidly advanced healthward by systematized exercise.

MATURE FRAMES.

As life advances, and as the frame becomes mature with all its structures complete and consolidated, susceptibility of material change diminishes, and actual gain in bodily power is comparatively uncertain and slow.* But there is no period of active life in which a man may not profit by systematized exercise if judiciously pursued; only let him use the same discretion in this as he would in practicing any exercise of any other kind, abiding by the simple movements of the earlier courses, and leaving the lither limbs and more elastic frames those where the demand for effort is sudden or great.† And let him not be disappointed if his progress is slow, or discouraged if he sees younger men pass him on the road; he must remember that he starts late, and it is with him at best the alter-

* It is however a noteworthy fact, and one showing with rather startling emphasis the truth of the adage, that "every rule has its exception," that of the first five hundred names on the book of the Oxford Gymnasium the greatest increase in development is made by a man in his thirty-sixth year. From the 22d of October to the 21st of December, 1862, he gained in hight, one-eighth of an inch; in weight, thirteen pounds; in breadth of chest, four and a half inches; around fore-arm, one inch and seven-eighths; upper arm, one inch and one-eighth.

† The first course of the system may be freely and almost unconditionally recommended to men throughout what may be called middle life; care being taken to use a bell and bar well within the physical capacity. The best time for this practice is in the early morning, immediately after the bath, and when regularly taken it need not extend over more than a few minutes.

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native of "better late than never;" but late is late and implies disadvantage; he is trying to do, as well as he can, what could only have been done perfectly in its proper season, and that has passed away. The educational time of mind and body is the same, the *growing time;* but just as we see men whose opportunities of mental culture in early life have been small or neglected, in a measure retrieve the loss by later efforts, so may the neglected culture of the body also be retrieved by after endeavors, if judiciously and perseveringly made.

Hot-House Brains.

BY R. R. BOWLER.

NOT many years ago it was flat blasphemy to blame any thing but Providence for disease and death. Pestilence was the hand of God, and it was impious to talk of want of sewerage. Now it is quite orthodox to believe that God has placed men's lives largely in their own hands, that death is less often the decree of Providence than the doings of the man, that there are more suicides than the Morgue accommodates or we read of in the papers. The art of living is indeed a new found art, but it is worth all the "lost arts" together. And of all the lessons of modern physiology none is plainer or more important than this, that after a man has come to support and look out for himself, notwithstanding inherited disease, early neglect, and the likelihood of accident, the chances are that he will himself cut short his years by his voluntary transgressions of the laws of life.

Now although this does not mean that death may be banished from the world, it does mean this, that there is a very great waste of human life which is entirely unnecessary. The more valuable the life, the greater is the loss to the community. And this brings us to what we have specially to say.

These laws of life, with the information which will render the knowing of them of use, have not as yet come home practically to the mass of the people. It is one of the great duties of the thinking men of this age so to bring them home —by constant preaching and reiteration of them in our schools, from our platforms and pulpits (the latter not the least), and in papers and popular books. What shall we say then whenwe find that it is these very thinking men who are most thoughtless—or most criminal—in regard to this matter, as it concerns themselves?

There are few useful, broad men of our day but know the worth of these laws. And yet how few act upon them; and how few are willing to blame themselves for what they are well aware is their own work, and theirs only!

One of the foundation laws is this: that we must be as temperate in our brain-work and as varied in our whole work, as we must be temperate and varied in our food and drink. What chance of life would that man have who should be always eating or drinking, giving his stomach no time for rest? Modern physiology tells us in no uncertain words that a man can no more use his brain all the time than he can use his stomach all the time, and that a headache of a certain kind is just as reliable in telling us that we have overworked or abused our brain, as a stomach-ache is in telling us like things of our eating and drinking. Too much brain-work or want of sleep-rest, is as sure to give a man typhoid or brain fever, and at last to kill him or make him useless, as intemperance and gluttony are sure to bring on their train of diseases and ruin and at last kill him.

Nowhere should this be more persistently urged—and nowhere, unfortunately, is it less urged—than among our intellectually ambitious young men. Our colleges suffer terribly from this mistake; scarcely a college class but has more than one such suicide. We have in our mind's eye just such an one, a youth of rare intellectual promise, whom Death found at his books and took in his prime the summer past. Approved for his "faithfulness" to study, he had neglected those laws of life which he knew full well, and the penalty was swift and sure. Not the keen dagger, nor the fatal bullet, nor the dark plunge could have made him more a suicide. And this may go largely to explain why college honor-men are not the honor-men

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of the world; if they do not die, they break down and float into and about the great world —mere wrecks.

In brain-work, as in some other things, Young America needs rather to be held back than hallooed on. The common vice of laziness is not apt to be the danger with these eager young men, active of brain, whose physico-mental development is still in progress, and who are liable to be stunted by overwork in the period of growth. We remonstrated not a fortnight since, with one of these, whose brilliancy is the sword he whets but to his own destruction, and got this answer: "I own to being ambitious. By the time that I am twenty-five, I mean to have and to enjoy power and position. So that I can not afford to rest now; I must work all the harder, and put off my enjoyment and my rest till by-and-by."

Here is the rub, the fallacy. This sort forget that haste sometimes makes waste, that "*festina lente*" is good common sense though it is in Latin. They get themselves down to barely seven hours sleep, working by gaslight and in the early morning, studying, reading, and writing, until their over-burdened brains give way. Nature reasserts herself. One of two things must happen; they must have resort to stimulants and ruin themselves thus, or they must break down totally. The power and position they fail of; the rest never comes. They live only to regret.

The death last year of a prominent and overworked journalist of scarcely middle-age, served to call attention to this state of things, but also to develop a most disastrous fallacy in this connection. A city daily remarked in commenting on Mr. Raymond's death (which was strikingly in parallel with that of Mr. Halpine a year before), that it was better to live a short life, vigorous, useful, and brilliant, than to spin out one's vitality into many more years, and accomplish little more than the mere longevity. This is a most unfair begging of the question; it in effect compares the short life of a brilliant man with the long life of stupidity. The actual problem is whether a man of certain gifts will do best to economize his work and his life, or, by working at high pressure in his early years, find no late ones in which to do any work.

The issue presented to brain-workers of promise is therefore this, whether it pays to take off from one end of life for the purpose of crowding more work into the other—in which way they can, all things being considered, accomplish most and best work? Certainly, youth and the work of youth are grand things—the freshness, the vigor, the enthusiasm! But youth after all is not so much a matter of years; there are men old at thirty, and there are men still young at the limit of life. To combine youth of body and mind and spirit with experience of years is the wisest activity; to do this longest is the wisest life. Let a man obey at his best the physical and other laws of life, and he can be at forty no less a youth than he was at twenty. With his added knowledge, his continued development, his stored experience, isn't it fair to say that one of his years after forty is worth more, in real fruition, to himself and the community, than any one at twenty or near by?

Well, then, these are the facts: A man can not make a hot-house of his brain, especially while young, without cutting short his life—in most cases, at forty or thereabouts. He has, say, twenty years of work. If he treats himself properly, works only at moderate pressure, allows his natural development, physical and mental, he is as likely to live, vigorous, till seventy. He has, to put it lower, forty years of work—double what the forcing process would allow him. And we have pointed out that it is not unfair to claim for each of the forty years a much higher average activity than for each of the twenty.

As to the notion of our friend, that he must slave now to enjoy hereafter, that is still more fallacious. If he lived, which is unlikely, he would be a wreck, unable to enjoy. Moreover there is no such thing as lumping enjoyment. No man ever enjoyed himself by making a business of it. We must take it as it comes, distributed through life, as our work should be—the butter with the bread, not to be eaten by the pound after we have finished the loaf.

Every young man of parts has thus to choose between the hot-house and open-air systems of brain nurture. It is true that the multiplicity of things now to be learned presses him hard—this is the more reason why he should consider. The habit-model of youthful brains of this age should be that great scholar and worker, who said that he accomplished his vast amount of daily work by taking "plenty of sleep." Plenty of sleep, plenty of exercise, plenty of wholesome food, plenty of time for its digestion, plenty of all that Nature calls for—these are to build up the intellectual giants who are to lead progress in the time to come. Let those aspirants who disdain Nature and her laws have a care! "In the physical world," it has been well written, "there is no forgiveness of sin!"

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OUR STUDIES IN PHYSIOLOGY

*FIFTH STUDY.**

RESPIRATION.

THE blood, the general nature and properties of which have been described in the preceding study, is the highly complex product, not of any one organ or constituent of the body, but of all. Many of its features are doubtless given to it by its intrinsic and proper structural elements, the corpuscles; but the general character of the blood is also profoundly affected by the circumstance that every other part of the body takes something from the blood and pours something into it. The blood may be compared to a river, the nature of the contents of which is largely determined by that of the head-waters, and by that of the animals which swim in it, but which is also very much affected by the soil over which it flows, by the water-weeds which cover its banks, and by affluents from distant regions; by irrigation-works which are supplied from it, and by drain-pipes which flow into it.

One of the most remarkable and important of the changes effected in the blood is that which results, in most parts of the body, from its simply passing through capillaries, or, in other words, through vessels, the walls of which are thin enough to permit a free exchange between the blood and the fluids which permeate the adjacent tissues.

Thus, if blood be taken from the artery which supplies a limb, it will be found to have a bright red color; while the blood drawn, at the same time, from the vein of the limb, will be of a purplish hue, so dark that it is commonly called "black blood." And as this contrast is met with in the contents of the arteries and veins in general (except the pulmonary artery and veins), the scarlet blood is commonly known as arterial, and the black blood as venous.

This conversion of arterial into venous blood takes place in most parts of the body while life persists. Thus if a limb be cut off and scarlet blood be forced into its arteries by a syringe, it will issue from the veins as black blood, so long as the limb exhibits signs of persistent vitality; and when these disappear the blood will no longer be changed.

When specimens of venous and arterial blood are subjected to chemical examination, the differences presented by their solid and fluid constituents are found to be very small and inconstant. As a rule, there is rather more water in arterial blood and rather more fatty matter. But the gaseous contents of the two kinds of blood differ widely in the proportion which the carbonic acid gas bears to the oxygen; there being a smaller quantity of carbonic acid in venous than in arterial blood.

And it may be experimentally demonstrated that this difference in the gaseous contents is the only essential difference between venous and arterial blood. For if arterial blood be shaken up with carbonic acid, so as to be thoroughly saturated with that gas, it loses oxygen, gains carbonic acid, and acquires the hue and proprieties of venous blood; while, if venous blood be similarly treated with oxygen, it gains oxygen, loses carbonic acid, and takes on the color and properties of arterial blood. The same result is attained, though more slowly, if the blood in either case be received into a bladder, and then placed in the carbonic acid or oxygen gas; the thin moist animal membrane allowing the change to be effected with perfect ease, and offering no serious impediment to the passage of either gas.

The physico-chemical processes involved in the exchange of carbonic acid for oxygen when venous is converted into arterial blood, or the reverse, in the cases mentioned above, are not thoroughly understood, and are probably somewhat complex.

It is known that gases, mechanically held by a fluid in a given proportion, tend to diffuse into any atmosphere to which they are exposed, until they occupy that atmosphere in corresponding proportion; and that gases separated by a dry porous partition, or simply in contact, diffuse into one another with a rapidity which is inversely proportioned to the square roots of their densities. A knowledge of these physical principles does, in a rough way, lead us to see how the gases contained in the blood may effect an exchange with those in the air, whether the blood be exposed, or inclosed in a membrane.

But the application of these principles gives no more than this sort of general insight. For in the first place, the gases of the blood are not held in a merely mechanical way in it; the oxygen seems to be loosely combined with the

* Our Studies in Physiology are condensed from Prof. T. H. Huxley's English works, not published here.

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red corpuscles, and there is reason to think that a great part, at least, of the carbonic acid, is chemically connected, in a similarly loose way, with certain saline constituents of the serum. And, secondly, when arterialization takes place through the walls of a bladder, or any other thin animal membrane, the matter is still further complicated by the circumstance that moisture dissolves carbonic acid far more freely than it will oxygen. A moist bladder, partially filled with oxygen, and suspended in carbonic acid gas, becomes rapidly distended, in consequence of the carbonic acid gas passing into it with much greater rapidity than the oxygen passes out.

The cause of the change of color in blood—of its darkening when exposed to carbonic acid, and its brightening when under the influence of oxygen—is not thoroughly understood. There is reason to think, however, that the red corpuscles are rendered somewhat flatter by oxygen gas, while they are distended by the action of carbonic acid. Under the former circumstances they may, not improbably, reflect the light more strongly, so as to give a more distinct coloration to the blood; while, under the latter, they may reflect less light, and, in that way, allow the blood to appear darker and duller.

This, however, is not the whole of the matter; for solutions of hæmoglobin or of blood crystals even when perfectly free from actual blood corpuscles, change in color from scarlet to purple, according as they gain or lose oxygen. It has already been stated that oxygen most probably exists in the blood in loose combination with hæmoglobin. But, further, there is evidence to show that a solution of hæmoglobin, when thus loosely combined with oxygen, has a scarlet color, while a solution of hæmoglobin, deprived of oxygen, has a purplish hue. Hence arterial blood, in which the hæmoglobin is richly provided with oxygen, would naturally be scarlet, while venous blood, which not only contains an excess of carbonic acid, but whose hæmoglobin also has lost a great deal of its oxygen, would be purple.

Whatever may be their explanation, however, the facts are certain, that arterial blood, separated by only a thin membrane from carbonic acid, or from a fluid containing a greater amount of carbonic acid than itself, becomes venous; and that venous blood, separated by only a thin membrane from oxygen, or a fluid containing a greater proportion of free oxygen than itself, becomes arterial.

In these facts lies the explanation of the conversion of scarlet blood into dark blood as it passes through the capillaries of the body, for the latter are bathed by the juices of the tissues which contain carbonic acid, the product of their waste and combustion, in excess. On the other hand, if we seek for the explanation of the conversion of the dark blood in the veins into the scarlet blood of the arteries, we find, first, that the blood remains dark in the right auricle, the right ventricle, and the pulmonary artery; second, that it is scarlet not only in the aorta, but in the left ventricle, the left auricle, and the pulmonary veins.

Obviously, then, the change from venous to arterial takes place in the pulmonary capillaries, for these are the sole channels of communication between the pulmonary arteries and the pulmonary veins.

But what are the physical conditions to which blood is exposed in the pulmonary capillaries?

These vessels are very wide, thin walled, and closely set, so as to form a network with very small meshes, which is contained in the substance of an extremely thin membrane. This membrane is in contact with the air, so that the blood in each capillary of the lung is separated from the air, by only a delicate pellicle, formed by its own wall and the lung membrane. Hence an exchange very readily takes place between the blood and the air; the latter gaining moisture and carbonic acid and losing oxygen.*

ESSENTIAL STEP IN BREATHING.

This is the essential step in respiration: that it really takes place may be demonstrated very readily by the experiment described in the First Study in which air expired was proved to differ from air inspired, by containing more heat, more water, more carbonic acid and less oxygen; or, on the other hand, by putting a ligature on the wind-pipe of a living animal so as to prevent air from passing into or out of the lungs, and then examining the contents of the heart and great vessels. The blood on both sides of the heart, and in the pulmonary veins and aorta, will be found to be as completely venous as in the vena cava and pulmonary artery.

But though the passage of carbonic acid gas and hot watery vapor out of the blood, and of

* The student must guard himself against the idea that arterial blood contains no carbonic acid, and venous blood no oxygen. In passing through the lungs venous blood loses only a part of its carbonic acid; and arterial blood, in passing through the tissues, loses only a part of its oxygen. In blood, however venous, there is in health always some oxygen; and in even the brightest arterial blood there is actually more carbonic acid than oxygen.

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oxygen into it, is the essence of the respiratory process—and thus a membrane with blood on one side and air on the other, is all that is absolutely necessary to effect the purification of the blood—yet the accumulation of carbonic acid is so rapid, and the need for oxygen so incessant, in all parts of the human body, than the former could not be cleared away, nor the latter supplied, with adequate rapidity, without the aid of extensive and complicated accessory machinery.

No conditions can be more favorable to a ready exchange between the gaseous contents of the blood and those of the air in the air-cells, than the arrangements which obtain in the pulmonary capillaries; and, thus far, the structure of the lung fully enables us to understand how it is that the large quantity of blood poured through the pulmonary circulation becomes exposed in very thin streams, over a large surface, to the air. But the only result of this arrangement would be, that the pulmonary air would very speedily lose all its oxygen, and become completely saturated with carbonic acid, if special provision were not made for its being incessantly renewed.

NUMBER OF BREATHS PER MINUTE.

If an adult man, breathing calmly in the sitting position, be watched, the respiratory act will be observed to be repeated thirteen to fifteen times every minute. Each act consists of certain components which succeed one another in a regular rhythmical order. First, the breath is drawn in, or inspired; immediately afterward it is driven out, or expired; and these successive acts of inspiration and expiration are followed by a brief pause. Thus, just as in the rhythm of the heart the auricular systole, the ventricular systole, and then a pause follow in regular order; so in the chest, the inspiration, the expiration, and then a pause succeed one another. At each inspiration of an adult well-grown man about thirty cubic inches of air are inspired; and at each expiration the same, or a slightly smaller volume (allowing for the increase of temperature of the air so expired) is given out of the body.

DISAPPEARANCE OF OXYGEN.

Nery close analysis of the expired air shows, firstly, that the quantity of oxygen which disappears is always slightly in excess of the quantity of carbonic acid supplied; and secondly, that the nitrogen is variable—the expired nitrogen being sometimes slightly in excess of, sometimes slightly less than that inspired, and sometimes remaining stationary.

From three hundred and fifty to four hundred cubic feet of air are thus passed through the lungs of an adult man taking little or no exercise, in the course of twenty-four hours; and are charged with carbonic acid, and deprived of of oxygen, to the extent of nearly five per cent. This amounts to about eighteen cubic feet of the one gas taken in, and of the other given out. Thus, if a man be shut up in a close room, having the form of a cube seven feet in the side, every particle of air in that room will have passed through his lungs in twenty-four hours, and a fourth of the oxygen it contains will be replaced by carbonic acid.

The quantity of carbon eliminated in the twenty-four hours is pretty clearly represented by a piece of pure charcoal weighing eight ounces.

The quantity of water given off from the lungs in the twenty-four hours varies very much, but may be taken on the average as rather more than half a pint, or about nine ounces. It may fall below this amount, or increase to double or treble the quantity.

ELASTICITY OF THE LUNGS.

The lungs are elastic, whether alive or dead. During life the air which they contain may be further affected by the contractility of the muscular walls of the bronchial tubes. If water is poured into the lungs of a recently killed animal, and a series of electrical shocks is then sent through the bronchial tubes, the latter contract, and the water is forced out. Lastly, during life a further source of motion in the bronchial tubes is provided by the cilia—minute filaments attached to the epithelium of the tubes, which incessantly vibrate backward and forward, and work in such a manner as to sweep liquid and solid matters outward or toward the trachea.

KINDS OF RESPIRATION.

Let us now consider what would be the result of the action of the parts of the respiratory apparatus, if the diaphragm alone should begin to contract at regular intervals.

When it contracts it increases the vertical dimensions of the thoracic cavity, and tends to pull away the lining of the bottom of the thoracic box from that which covers the base of the lungs; but the air immediately rushing in at the trachea, proportionately increases the distension of the lung, and prevents the formation of any vacuum between the two pleuræ in this region. When the diaphragm ceases to contract, so much of the elasticity of the lungs as was neutralized by the contraction of the

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diaphragm, comes into play, and the extra air taken in is driven out again. We have, in short, an Inspiration and an Expiration.

Suppose on the other hand that, the diaphragm being quiescent, the external intercostal muscles contract. The ribs will be raised from their oblique position, the antero-posterior dimensions of the thoracic cavity will be increased, and the lungs will be distended as before to balance the enlargement. If now the external intercostals relax, the action of gravity upon the ribs, and the elasticity of the lungs, will alone suffice to bring back the ribs to their previous positions and to drive out the extra air; but this expiratory action may be greatly aided by the contraction of the internal intercostals.

Thus it appears that we may have either diaphragmatic respiration or costal respiration. As a general rule, however, not only do the two forms of respiration coincide and aid one another—the contraction of the diaphragm taking place at the same time with that of the external intercostals, and its relaxation with the contraction of the internal intercostals—but sundry other accessory agencies come into play. Thus, the muscles which connect the ribs with parts of the spine above them, and with the shoulder, may, more or less extensively, assist inspiration; while those which connect the ribs and breast-bone with the pelvis, and form the front and side walls of the abdomen, are powerful aids to expiration. In fact they assist expiration in two ways; first, directly, by pulling down the ribs; and next, indirectly, by pressing the viscera of the abdomen upward against the under surface of the diaphragm, and so driving the floor of the thorax upward.

It is for this reason that, whenever a violent expiratory effort is made, the walls of the abdomen are obviously flattened and driven toward the spine, the body being at the same time bent forward.

In taking a deep inspiration, on the other hand, the walls of the abdomen are relaxed and become convex, the viscera being driven against them by the descent of the diaphragm—the spine is straightened, the head thrown back, and the shoulders outward, so as to afford the greatest mechanical advantage to all the muscles which can elevate the ribs.

DIFFERENCE IN SEX.

It is a remarkable circumstance that the mechanism of respiration is somewhat different in the two sexes. In men, the diaphragm takes the larger share in the process, the upper ribs moving comparatively little; in women, the reverse is the case, the respiratory act being more largely the result of the movement of the ribs.

SIGHING, COUGHING, ETC.

Sighing is a deep and prolonged inspiration. Snifting is a more rapid inspiratory act, in which the mouth is kept shut, and the air made to pass through the nose.

Coughing is a violent expiratory act. A deep inspiration being first taken, the glottis is closed and then burst open by the violent compression of the air contained in the lungs by the contraction of the expiratory muscles, the diaphragm being relaxed and the air driven through the mouth. In sneezing, on the contrary, the cavity of the mouth being shut off from the pharynx by the approximation of the soft palate and the base of the tongue, the air is forced through the nasal passages.

LUNGS COMPARED TO A BELLOWS.

It thus appears that the thorax, the lungs, and the trachea constitute a sort of bellows, without a valve, in which the thorax and the lungs represent the body of the bellows, while the trachea is the pipe; and the effect of the respiratory movements is just the same as that of the approximation and separation of the handles of the bellows, which drive out and draw in the air through the pipe. There is, however, one difference between the bellows and the respiratory apparatus, of great importance in the theory of respiration, though frequently overlooked; and that is, that the sides of the bellows can be brought close together so as to force out all, or nearly all, the air they contain; while the walls of the chest, when approximated as much as possible, still inclose a very considerable cavity; so that, even after the most violent expiratory effort, a very large quantity of air is left in the lungs.

The amount of this air which can not be got rid of, and is called residual air, is, on the average, from seventy-five to one hundred cubic inches.

About as much more in addition to this remains in the chest after an ordinary expiration, and is called supplemental air.

LUNG CAPACITY.

In ordinary breathing, 20 to 30 cubic inches of what is conveniently called tidal air pass in and out. It follows that, after an ordinary inspiration, 100 *plus* 100 *plus* 30 *equals* 230 cubic inches, may be contained in the lungs. By taking the deepest possible inspiration another

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100 cubic inches, called complemental air, may be added.

It results from these data that the lungs, after an ordinary inspiration, contain about 230 cubic inches of air, and that only about one-seventh to one-eighth of this amount is breathed out and taken in again at the next inspiration. Apart from the circumstance, then, that the fresh air inspired has to fill the cavities of the hinder part of the mouth, and the trachea, and the bronchi, if the lungs were mere bags fixed to the ends of the bronchi, the inspired air would descend as far only as to occupy that one-fourteenth to one-sixteenth part of each bag which was nearest to the bronchi, whence it would be driven out again at the next expiration. But as the bronchi branch out into a prodigious number of bronchial tubes, the inspired air can only penetrate for a certain distance along these, and can never reach the air-cells at all.

Thus the residual and supplemental air taken together are, under ordinary circumstances, stationary—that is to say, the air comprehended under these names merely shifts its outer limit in the bronchial tubes, as the chest dilates and contracts, without leaving the lungs; the tidal air alone, being that which leaves the lungs and is renewed in ordinary respiration.

It is obvious, therefore, that the business of respiration is essentially transacted by the stationary air, which plays the part of middleman between the two parties—the blood and the fresh tidal air—who desire to exchange their commodities, carbonic acid for oxygen and oxygen for carbonic acid.

Now there is nothing interposed between the fresh tidal air and the stationary air; they are aëriform fluids, in complete contact and continuity, and hence the exchange between them must take place according to the ordinary laws of gaseous diffusion.

Thus, the stationary air in the air-cells gives up oxygen to the blood, and takes carbonic acid from it, though the exact mode in which the change is effected is not thoroughly understood. By this process it becomes loaded with carbonic acid and deficient in oxygen, though to what precise extent is not known. But there must be a very much greater excess of the one, and deficiency of the other, than is exhibited by inspired air, seeing that the latter acquires its composition by diffusion in the short space of time (four to five seconds) during which it is in contact with the stationary air.

In accordance with these facts, it is found that the air expired during the first half of a expiration contains less carbonic acid than that expired during the second half. Further, when the frequency of respiration is increased without altering the volume of each inspiration, though the percentage of carbonic acid in each inspiration is diminished, is not diminished in the same ratio as that in which the number of inspirations increases; and hence more carbonic acid is got rid of in a given time.

Thus, if the number of inspirations per minute is increased from fifteen to thirty, the percentage of carbonic acid evolved in the second case remains more than half of what it was in the first case, and hence the total evolution is greater.

RESPIRATORY SOUNDS.

The respiratory sounds or murmurs are audible when the ear is applied to any part of the chest which covers one or other of the lungs. They accompany inspiration and expiration, and very much resemble the sounds produced by breathing through the mouth, when the lips are so applied together as to leave a small interval. Over the bronchi the sounds are louder than over the general surface. It would appear that these sounds are produced by the motion of the air along the air-passages.

FORCE TO DISTEND THE LUNGS.

In consequence of the elasticity of the lungs, a certain force must be expended in distending them, and this force is found experimentally to become greater and greater the more the lung is distended; just as, in stretching a piece of india rubber, more force is required to stretch it a good deal than is needed to stretch it only a little. Hence, when inspiration takes place, and the lungs are distended with air, the heart and the great vessels in the chest are subjected to a less pressure than are the blood-vessels of the rest of the body.

For the pressure of air contained in the lungs is exactly the same as that exerted by the atmosphere upon the surface of the body; that is to say, fifteen pounds on the square inch. But a certain amount of this pressure exerted by the air in the lungs is counterbalanced by the elasticity of the distended lungs. Say that in a given condition of inspiration a pound pressure on the square inch is needed to overcome this elasticity, then there will be only fourteen pounds pressure on every square inch of the heart and great vessels. And hence the pressure on the blood in these vessels will be one pound per square inch less than that on the veins and arteries of the rest of the body. If

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there were no aortic or pulmonary valves, and if the compositions of the vessels and the pressure upon the blood in them were everywhere the same, the result of this excess of pressure on the surface would be to drive all the blood from the arteries and veins of the rest of the body into the heart and great vessels contained in the thorax. And thus the diminution of the pressure upon the thoracic blood cavities produced by inspiration, would, practically, suck the blood from all parts of the body toward the thorax. But the suction thus exerted, while it hastens the flow of blood to the heart in the veins, would equally oppose the flow from the heart to the arteries, and the two effects would balance one another.

As a matter of fact, however, we know—

1. That the blood in the great arteries is constantly under a very considerable pressure, exerted by their elastic walls; while that of the veins is under little or no pressure, the walls of the veins having but little elasticity.

2. That the walls of the arteries are strong and resisting, while those of the veins are weak and flabby.

3. That the veins have valves opening toward the heart; and that, during the diastole, there is no resistance of any moment to the free passage of blood into the heart; while, on the other hand, the cavity of the arteries is shut off from that of the ventricle during the diastole, by the closure of the semilunar valves.

Hence it follows that equal pressures applied to the surface of the veins and to that of the arteries must produce very different effects. In the veins the pressure is something which did not exist before; and, partly from the presence of valves, partly from the absence of resistance in the heart, partly from the presence of resistance in the capillaries, it all tends to accelerate the flow of blood toward the heart. In the arteries, on the other hand, the pressure is only a fractional addition to that which existed before; so that during the systole, it only makes a comparatively small addition to the resistance which has to be overcome by the ventricle; and during the diastole, it superadds itself to the elasticity of the arterial walls in driving the blood onward toward the capillaries, inasmuch as all progress in the opposite direction is stopped by the semilunar valves.

It is, therefore, clear that the inspiratory movement, on the whole, helps the heart, inasmuch as its general result is to drive the blood the way that the heart propels it.

Hitherto, I have supposed the air-passages to be freely open during the inspiratory and expiratory movements. But if the lungs being distended, the mouth and nose are closed, and a strong expiratory effort is then made, the heart's action may be stopped altogether.* And the same result occurs, if the lungs being partially emptied, and the nose and mouth closed, a strong inspiratory effort is made. In the latter case the excessive distension of the right side of the heart, in consequence of the flow of blood into it, may be the cause of the arrest of the heart's action; but in the former, the reason of the stoppage is not very clear.

RESPIRATORY ACTIVITY.

The activity of the respiratory process is greatly modified by the circumstances in which the body is placed. Thus, cold greatly increases the quantity of air which is breathed, the quantity of oxygen absorbed, and of carbonic acid expelled; exercise and the taking of food have a corresponding effect.

In proportion to the weight of the body, the activity of the respiratory process is far greatest in children, and diminishes gradually with age.

The excretion of carbonic acid is greatest during the day, and gradually sinks at night, attaining its minimum about midnight, or a little after.

The quantity of oxygen which disappears in proportion to the carbonic acid given out, is greatest in carnivorous, least in herbivorous animals—greater in a man living on a flesh diet, than when the same man is feeding on vegetable matters.

CARBONIC ACID POISONING.

When a man is strangled, drowned, or choked, or is, in any other way, prevented from inspiring or expiring sufficiently pure atmospheric air, what is called asphyxia comes on. He grows "black in the face;" the veins become turgid; insensibility, not unfrequently accompanied by convulsive movements, sets in, and he is dead in a few minutes.

But, in this asphyxiating process, two deadly influences of a distinct nature are coöperating; one is the deprivation of oxygen, the other is the excessive accumulation of carbonic acid in the blood. Oxygen starvation and carbonic acid poisoning, each of which may be fatal in itself, are at work together.

The effects of oxygen starvation may be studied separately, by placing a small animal under the receiver of an air-pump and exhaust-

* There is danger in attempting this experiment.

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ing the air; or by replacing the air by a stream of hydrogen or nitrogen gas. In these cases no accumulation of carbonic acid is permitted, but, on the other hand, the supply of oxygen soon becomes insufficient, and the animal quickly dies. And if the experiment be made in another way, by placing a small mammal or bird, in air from which the carbonic acid is removed as soon as it is formed, the animal will nevertheless die as soon as the amount of oxygen is reduced to ten per cent. or thereabout.

The directly poisonous effect of carbonic acid on the other hand, has been very much exaggerated. A very large quantity of pure carbonic acid (ten to fifteen or twenty per cent.) may be contained in air, without producing any very serious immediate effect, if the quantity of oxygen be simultaneously increased. And it is possible that what appear to be the directly poisonous effects of carbonic acid may really arise from its taking up the room that ought to be occupied by oxygen. If this be the case carbonic acid is a negative rather than a positive poison.

Whichever may be the more potent agency, the effect of the two, as combined in asphyxia, is to produce an obstruction, firstly, in the pulmonary circulation, and, secondly, in the veins of the body generally. The lungs and the right side of the heart, consequently, become gorged with blood, while the arteries and left side of the heart gradually empty themselves of the small supply of dark and unaërated blood which they receive. The heart becomes paralyzed, partly by reason of the distension of its right side, partly from being supplied with venous blood; and all the organs of the body gradually cease to act.

Sulphuretted hydrogen, so well known by its offensive smell, has long had the repute of being a positive poison. But its evil effects appear to arise chiefly, if not wholly, from the circumstance that its hydrogen combines with the oxygen carried by the blood corpuscles, and thus give rise, indirectly, to a form of oxygen starvation.

Carbonic oxide gas has a much more serious effect, as it turns out the oxygen from the blood corpuscles, and forms a combination of its own with the hæmoglobin. The compound thus formed is gradually decomposed by fresh oxygen; but, if any large proportion of the blood corpuscles be thus rendered useless, the animal dies before his restoration can be effected.

Badly made common gas sometimes contains twenty to thirty per cent. of carbonic oxide; and, under these circumstances, a leakage of the pipes in a house may be extremely perilous to life.

It is not necessary, however, absolutely to strangle or drown a man in order to asphyxiate him. As, other things being alike, the rapidity of diffusion between two gaseous mixtures depends on the difference of the proportions in which their constituents are mixed, it follows that the more nearly the composition of the tidal air approaches that of the stationary air, the slower will be the diffusion of carbonic acid outward and of oxygen inward, and the more charged with carbonic acid and defective oxygen will the air in the air-cells become. And, on increasing the proportion of carbonic acid in the tidal air, a point will at length be reached when the change effected in the stationary air is too slight to enable it to relieve the pulmonary blood of its carbonic acid, and to supply it with oxygen to the extent required for its arterialization. In this case the blood which passes into the aorta, and is thence distributed to the heart and the body generally, being venous, all the symptoms of insensibility, loss of muscular power and the like, which have been enumerated above as the results of supplying the brain and muscles with venous blood will follow, and a stage of suffocation or asphyxia will supervene.

Asphyxia takes place whenever the proportion of carbonic acid in tidal air reaches ten per cent. (the oxygen being diminished in like proportion). And it makes no difference whether the quantity of carbonic acid in the air breathed is increased by shutting out fresh air; or by augmenting the number of persons who are consuming the same air; or by suffering combustion, in any shape, to carry off oxygen from the air.

But the deprivation of oxygen, and the accumulation of carbonic acid cause injury, long before the asphyxiating point is reached. Uneasiness and headache arise when less than one per cent. of the oxygen of the air is replaced by other matters; while the persistent breathing of such air tends to lower all kinds of vital energy and predisposes to disease.

Hence the necessity of sufficient air and of ventilation for every human being. To be supplied with respiratory air in a fair state of purity, every man ought to have at least 800 cubic feet of space* to himself, and that space ought to be freely accessible, by direct or indirect channels, to the atmosphere.

*A cubical room nine feet high, wide, and long, contains only 729 cubic feet of air.

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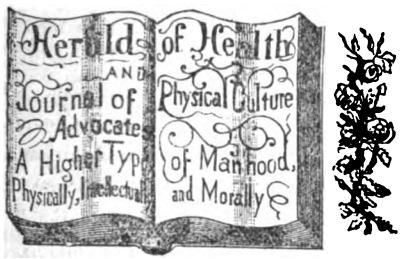
EDITORIAL DEPARTMENT.



NEW YORK, MAY, 1870.

WATER.

"To the days of the aged it addeth length;
To the might of the strong it addeth strength;
It freshens the heart, it brightens the sight;
'Tis like quaffing a goblet of morning light."

☞ THE PUBLISHERS *do not hold themselves as indorsing every article which may appear in* THE HERALD. *They will allow the largest liberty of expression, believing that by so doing this magazine will prove to be more useful and acceptable to its patrons.*

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TOPICS OF THE MONTH.

BY M. L. HOLBROOK, M. D., EDITOR.

THE PROPAGATION OF RASCALITY.—Aristotle, discoursing of the hereditary nature of any moral taint, told of a man who was arraigned for the crime of beating his father, and who made this reply to the indictment: "My father beat his father, and he also [pointing to his own child] will beat me when he becomes a man; for it was always in our family." This old Greek merely said elegantly what in our time has been uttered bluntly by a Connecticut Yankee who related it as a peculiarity of the stock to which he belonged, that "the sons usually took after their father, took after them with a stick!"

But these sentences, whether they make us smile or look grave, really conduct us to the verge of a subject at once mysterious and awful. Is it, indeed, true that what the law calls crime is something transmissible from parent to child, and so on for ever? Can it be, that as in one family there is a hooked nose, in another an obliquity of vision, in another a predisposition to red hair, so in still another there is a twist in the soul impelling to theft or murder or incest?

We have just described this subject as an awful one. And is it not so? For, if the foregoing questions may be answered in the affirmative, what becomes of moral or legal responsibility? where is there any standing room for ethics? what justification is there for penal law and penal execution? If a man inherits his disposition to kill or to steal, just as he does his red hair, or his cross eyes, or his hooked nose, why is he to be punished for the one more th the other?

That people do inherit physical peculiarities from their progenitors is a fact of universal observation. We all recognize among our acquaintances family types of shape and gait and expression. The manifestations of this law are often very curious. The child who never saw his father will walk and gesticulate and shrug his shoulders just like his father. Then, too, a corporeal idiosyncrasy will sometimes drop out in one generation and reappear in the next or the next. Pliny tells of the family of Lepidus in Rome, in which were three persons, not successively, but at intervals, born with one and the same eye covered by a web. Illustrations of the same kind are within the observation of every one. All will agree that physical peculiarities are hereditary.

However reluctant we may be to do so, we must face the terrible theory that possibly, nay probably, nay certainly, *moral peculiarities* are hereditary likewise. No matter what it throws

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or overthrows, the truth must come out. Hiding our heads in the sand, that we may not see the painful truth, is only an ostrich-way of avoiding a peril or a pang.

We have been drawn into these reflections by the perusal of a deeply interesting essay lately promulgated by Dr. Bruce Thomson of Edinburgh, who, for many years, as prison-surgeon, has had daily and intimate acquaintance with large numbers of criminals of both sexes. His professional duties, as well as the philosophical habit of his mind, have led him to observe closely, and to meditate upon the characteristics of these sad creatures; and he has evidently been driven to the conclusion that, in most cases, crime is a disease, not more to be punished than consumption or small-pox is to be punished, but to be dealt with by the physician rather than by the executioner and the prison official.

Without pledging ourselves to his conclusions in advance, let us calmly look at some of his facts.

In the first place, there are many noted historical samples of some special taint of wickedness clinging to certain families from generation to generation. Such examples are the Borgias, the Farnese, the Viscountes, and the Royal Stuarts of England and Scotland.

But, in the second place, while the special bent toward crime is seen in celebrated families like these, and in other families of the higher ranks of life, there is in every civilized country a distinctly criminal class, and this class herds together at the base of the social pyramid.

Sometimes the members of this class live in country districts; and then the individuals who compose it are more widely separated. Even then, however, the law of elective affinities holds; and the tendency is for these birds of a dark feather to flock together, to intermarry, or to breed children without intermarriage, and to intensify each other's evil tendencies by all the innumerable stimuli of fellowship and example.

But the favorite abodes of the criminal class are the great cities. They push their way thither for a thousand reasons of advantage and pleasure. And in the great cities they have a *locale* and a community of their own. They are never found pursuing any honorable calling. They do not mingle in markets and engage in commerce with civilized business men. "The greatest number are thieves—Ishmaelites, whose hand is against every civilized man. There is always a thieves' quarter, a devil's den, for these city Arabs; and in the foul air and filthy lanes of their Alsatia, they associate together, and propagate a criminal population." These communities have no regard for marriage or for consanguinity; and nothing can be more obvious than that the children of their depraved lusts shall inherit a disposition to whatever is low and wicked. These children are born into crime, as well as reared, nurtured, and instructed in it; habit becomes a new force—a second nature superinduced upon their original moral depravity.

The evidence thus given of a distinctive criminal class is confirmed by the marked physiological type which they all have in common, and which is so striking that prison officials and detective officers, can pick them out of any promiscuous assemblage in church or market. They all have a set of coarse, angular, clumsy, stupid features, and dirty complexions. The women are all ugly in form, face, and action, without beauty of color, or grace, or regularity of features; and they all have a sinister and repulsive mien. From such physical characteristics we naturally expect low mental and moral characteristics; and we are never disappointed. Physical degeneration goes on with intellectual depravity.

This array of facts is made complete by the additional statement that the family histories of the criminal class indicate that crime in them is hereditary. From what has gone before, we should infer this. But we are all cowards in logic, and dare not eye our own conclusions. Having been forced to the construction of a theory, we are yet timid about its reception until we see it bolstered up by actual facts. If, however, crime is a hereditary thing, such a man as Dr. Bruce Thomson ought to be able

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to show it by real examples. Hear, then, what he says:

"The analogy of what happens by training among the lower animals proves that class habits must necessarily be transmitted to the different classes of society. I do not think that the transmission of thieving and other criminal habits forms any exception to other analogies. One of the most remarkable examples of criminal family I know of was that of three brothers who had families amounting to fifteen members in all. Of these, fourteen were utterers of base coin; the fifteenth appeared to be exceptional, but at length was detected in setting fire to his house after insuring it for four times its value. In the prison under my medical charge, one hundred prisoners are known to be from fifty families. Of one alone are eight prisoners; often two or three at a time from a single family."

Dr. Thomson then unfolds at considerable length, another side of the evidence. He shows that the hereditary tendency to crime appears from the resemblance in its transmission to other hereditary maladies. Moreover all these proofs are strengthened by the incurable character of crime, This, Dr. Thomson thinks, is the great corollary from the whole study—that crime is intractable in the highest degree. Between 1855 and 1866, 904 female prisoners, sentenced to transportation or penal servitude, were confined in the general prison of Scotland; and of these 440 were afterward re-convicted and re-admitted to the prison. The conclusions to which Dr. Thomson has come are of the most solemn and revolutionary character: "(1.) That crime being hereditary in the criminal class, measures are called for to break up the caste and community of the class; (2.) That transportation and long sentences of habitual criminals are called for in order to lessen the criminal offenders; (3.) that old offenders can scarcely be reclaimed, and that juveniles brought under very early training are more hopeful, but even these are apt to relapse into their hereditary tendency; and (4.) that crime is so nearly allied to insanity as to be chiefly a psychological study."

Perhaps we are on the edge of infinite changes in our ideas of law, of crime, and of punishment. If Dr. Thomson's views are correct, actual crime must be dealt with curatively and not punitively, the thief and the murderer must be called an invalid, our jails must be transformed into medical establishments, and penitentiaries must be called hospitals, asylums, and infirmaries.

THE WEAKER SEX.—Archbishop Trench has written a couple of books to illustrate the theory that words are fossil poetry. Many words, doubtless, are so; while many others are simply fossil prejudice. We point to the words which make the title of this article as examples of the latter.

It is not our purpose to assert that woman's organization is as firm and powerful as man's; or that the phrase, "the weaker sex," has no justification of truth in it. But the most pernicious lies are those which are more than half true. This innocent-looking phrase wraps up a whole volume of false thinking and erroneous action. It can be drawn out like a telescope; and every new length in it is a new lie and a new discouragement.

We call ourselves Christians, but we are idolators. The idol whom we worship is Power. We have never yet been redeemed from the paganism of preferring Might to Right. To accuse a whole sex of weakness, is an unconscious way of justifying every social and legal wrong done to that sex. The phrase itself thus becomes the shibboleth of the self-styled philosophy of masculine dominion in the world.

This phrase, too, is cruel in its insinuations. It implies a doom of weakness imposed upon woman by nature; whereas, this doom, so far as it exists, has been imposed by society. She is weak, just as the plant growing in the dark cellar is puny and pale. Bear her from the sullen darkness of her ten-thousand restrictions into the open sunlight and breezy freedom of those universal opportunities which men enjoy, and you will see her nature revive and exhibit a healthful and elastic power, such as the Creator evidently intended her to have.

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The phrase is cruel for its discouragements. It poisons the soul of woman with the thought of inherent and helpless incapacity. She who is made to dwell upon the consideration of her weakness, will become the bond-slave and the absolute victim of that weakness. Women need not, will not unsex themselves by spurning this pusillanimous insult upon their sex; and by trying to be strong with the fitting strength, of which the ample possibilities are within them.

And is it true that woman needs to be so weak as artificial life often presents her to us? On the contrary, take the world over, the largest amount of the rough hard work now done on the planet is done by "the weaker sex." Moreover, even in this happy land, where the chivalry of the strong sex is shown in making the weak sex weaker, we do occasionally see a noble-minded, self-reliant woman, striking out an independent path for herself, and vindicating the claim of all whom she represents to all the honorable chances of human life. The other day we read in a noted journal of a couple of New York sewing-women who, a few years since, broke away from the thraldom of the needle, went into the country, and hired a piece of ground, and became successful farmers. To-day comes a bright picture of feminine strength and moral enterprise in Minnesota, concerning a brave woman in Maine Prairie, of that State. The husband of this noble woman had expended his means in buying a wild farm, and was then prostrated by sickness; but she, instead of wringing her hands and sitting down in the helplessness appropriate to a member of "the weaker sex," went to her work. She cut the brush from eight acres, dug out the grubs, broke and fenced it; put in two acres of corn and potatoes, and hoed and harvested them, as also one hundred bushels of turnips, and one hundred and sixty bushels of wheat. She also during the summer, dug a cellar for the house, and last, but by no means least, did her housework in a neat manner.

There! such a woman as that is worth more to the cause of woman's emancipation from the disparaging prejudices of society, than a whole campaign of woman's rights conventions.

And if we may presume to offer a word of advice to the "weaker sex," it would be this: The country is ready to let you have your rights just so fast as you can take them. The true way to convince mankind that you have strength enough to qualify you for the privileges of human beings, is to get up and show the strength. Less assertion, ladies, and more ocular demonstration! Fewer words and more deeds! Stop not to complain, but act! You are sure you are right—go ahead!

HOMES *versus* PIG-PENS.—Among the ten thousand wise, practical sayings with which Henry Ward Beecher has enriched the minds and lives of this generation, we notice the following, recently set afloat: "A house whose atmosphere is fresh, sweet, and pure, invariably suggests to us cheerfulness and virtue. A dwelling whose air is close, full of ill-defined and half-fetid odors, suggests anything but complimentary truth respecting the inmates." He would be a very cruel public teacher who should satirize and sneer at people who failed to live in houses of tasteful architecture, furnished with faultless taste, and adorned with pictures and statues and gems of art: for these things, however beautiful and desirable, are possible only to the rich. But while only the few can have gorgeous and stately houses, all who have houses at all, can have clean ones. God has not given to rich folks any monopoly in regard to the articles of pure air and pure water. These elements are the free gifts of the Maker to us all; and no person is too poor to take and use what costs him nothing. Good friend, you may not, perhaps, be able to have a Brussels carpet on your floor; but you can have soap and water on it, occasionally! You may not have in your mansion windows of stained glass; but you can throw open several times a day such windows as you have! On the whole, however, we think the sin of foul air is quite as often committed in rich houses, as in poor ones. Horace Mann was fond of quoting Whitefield's

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dictum: "Cleanliness is next to godliness." We think this would be an excellent motto for many householders to write, in bold letters, in old Hebrew fashion, on their lintels and door-posts. What surer mark of vulgarity is there than the salutation of composite and venerable stenches with which one is often received as he enters the front doors of many houses! It is a poor atonement to offer us, after we get in, a sumptuous plush-covered sofa. Better is a three-legged stool with pure air, than the softest and most magnificent ottoman enveloped in an atmosphere of noisome smells.

LOST CHILDREN.—One of the saddest and most humiliating sights which a chaste woman can witness, is that of one of her sex bedizened with the tawdry finery of the wanton, and walking the pave in pursuit of her unhallowed gains. Lost children are they—lost to all that is true, and pure, and soul saving. They sink themselves into the mire of pollution, and drag down our husbands, our brothers, and our sons into the same sphere of degradation. Is there no remedy?

Assuredly there is. Train the girl to a womanly independence. Train the girl to work. Train her to feel that she has no right to rank among the unproductive classes. Train her to feel that it is selfish, cruel, wicked, to live on the toil of the other sex. Train her to a knowledge that men are driven to crime—to forgery, to robbery and theft, by the heartless extravagance of women. Train her with a will and power to stand alone in the world. If she yield her affections, let her do it in queenly wise, knowing her own value, feeling the sanctity of a human heart, the sacredness of human trust.

Washington Irving has said that "woman's whole world is in the affections." Never did a really fine mind ever utter a more imbecile and unworthy platitude. Her world is no more circumscribed by the affections than that of the other sex. Indeed, we doubt if it is so much so. The modern woman, if not sunk in vanity, has her ambitions, her greed of gain, her vile passions of revenge, hatred, and malignity quite equal to men. The tender, dependent, sentimental woman is nearly obsolete, or is found at length among the lost children of the street.

Is the chaste woman, chaste it may be because hemmed in by conventionalism, guiltless of the loss of these miserable sisters? Is she who flaunts her jewelry and silks in the church and in the street creating an atmosphere of luxury and extravagance, stimulating the vanity of her sex, encouraging idleness, exciting a contempt for sober industry, guiltless of the misery and degradation of these lost children of the sex?

We think not. We need a reform more thorough and vital than any that has yet been organized, for the cure of the many ills that flesh is heir to. Woman must take the initiative. She must save the lost ones by an example of simplicity, industry, and womanly endeavor. Much is gained, when women receive equal pay for an equal amount of equally good work as the other sex, but the root of the matter is lower down, where women will spurn dependence, where she will be proud of her work, where she will uphold her half of humanity in all that is good. Then the costly robe earned by shame will fill her soul with loathing and abhorrence, and she will sooner starve than eat the unhallowed bread of crime.

WEIGHT OF THE BRAIN.—Dr. Davis has lately been measuring the skulls of 762 persons of different races to ascertain the weight of the brain, which he estimates as follows: 21 English men, 50.28 ounces; 13 English women, 43.13 ounces; Scotch brains are a trifle heavier; and French brains weighed 45.17 ounces. The brains of the Italians, Laplanders, and Swedes were about the same as the English. Of the brains of 35 male and 31 female Hindoos, the weight was 42.11 ounces each. The Asiatic brain is about 3 ounces less than the English; and the African, 3.25 ounces less. Australian brains were 41.81 ounces each. This latter race seems to have brains one-ninth less than Europeans.

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FACTS *versus* FICTION.—One of our able cotemporaries has some few words on this subject, which seems to us not quite in the wholesome, generous vein of enlarged journalism. When he says "we shall hold firmly to *fact*, and let alone severely *fiction*," we heartily say amen to the position as embracing much that is called fiction now current in our periodicals; but we contend that this is but the abuse of a good thing; and that publishers are bound to confine the fiction which they give to their readers, within the boundary lines of what is of good moral import.

To reject a well-connected fiction, because it is fiction, when it may be delineating life as we find it, or mental phenomena, mysterious and awful, which are true *facts* in human experience, as in the story now passing through our columns, seems to us like straining at a gnat and swallowing a camel in the broad thoroughfare of truth.

Jesus, the great expounder of truth, constantly illustrated by fiction, and his parables are models of simple, beautiful romance culled from the *facts* of common observation. The earliest literature of a people comes in the story form, and children, young and old, turn from the dusty highway of fact, to revel awhile with the sorrows and trials of a Cinderella, the hundred and one nights of the unhappy Arabian Princess, whose devotion to her kind was equal to that of Queen Esther; Boccaccio, Cervantes, Fielding, down to the inimitable Scott and Cooper, Dickens and Hawthorne, to say nothing of the host of other distinguished authors, who have done as much, if not more, to evolve just moral ideas, as all our preachers in the pulpit, are illustrations in kind.

We repeat it, we must have fiction; we believe in it; but it must not be evolved *outside* of the realms of truth—it must go hand in hand with it; it must elucidate the true; it must not only

"Point to Heaven, but lead the way."

It must not deal in mere incident, but must give us the secret springs of action—the motives that underlie human deeds, the soul hidden, like the kernel in the fruit.

It is true that much of the fiction of the present day is bad, as we have before said in our columns, dealing as it does with the abuses of passion and sentiment, and if this kind of literature is popular to the exclusion of the more salutary, the fault lies with the publishers more than with the people. We believe that a reaction is at hand, and the sooner it comes the better.

A fiction is not the less interesting because it gives the reader something to think about, and this is peculiarly the charm with our great mystic writer, Hawthorne. Dickens gives us a loose, disjointed plot it may be, but there is Little Nell, and Domby, and Peggoty, and Betsy Trotwood, and a host of other characters about which we read, caring as little about their connection with the plot, as we do of Hamlet as associated with Horatio, in Shakspeare. It is not a mere story that people of intelligence crave, it is something to think about, something akin to life as we find it, with an aspiration beyond and above it. A good story is a sermon in a popular form. The mistake in the modern novel is that it deals exclusively in the details of crime, and thus has become an educator not merely of vice, but of crime also.

INSANITY IN ENGLAND.—There were, on January 1, 1869, 53,177 insane persons in England and Wales, and 46,896 of these were paupers. This is 16,415 more than it was ten years previous to that time. In other words there has been an increase of 45 per cent. of this disease, and only 11 per cent. increase in population. In 1859, there was one insane person in 516 persons, while in ten years after, there was one in 411 of the population. At this rate of increase, how long will it be before the majority of the people will become insane? Most of these unfortunate persons, it will be seen, are paupers, which is almost equivalent to saying that insanity and pauperism go together. It might be easy to trace pauperism to its legitimate source, alcoholic drinks, when the statement would read thus: alcoholic drinks produce pauperism; pauperism produces insanity;

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insanity curses its victims with a painful, useless life, and costs the nation a great deal to support those who ought to support themselves. The remedy, of course, is temperance, and it is quite as applicable and necessary in this country as in England. It is a disgrace to any civilized nation to allow the number of paupers, insane, and criminals, to go on augmenting without vigorous efforts to discover the cause, and apply a remedy that shall remove the evil.

HAVE WE A PRINCESS AMONG US?—By the way, what sort of a thing is a Princess? If we turn to our friends, the dictionary-makers, those surly watch-dogs of words, they will tell us that a princess is a female sovereign, or that she is a lady of royal rank, next to a queen, or something else of a similar import. Well, but these definitions are all obsolete, or alien in America; they all refer to social conditions which have no place among us. Is it impossible, then, for us to have so fair and auspicious a being in this land as a princess? Surely, it is impossible, unless we invent a revised definition of the word—say, an American definition. Let us invent one, then! Let us inaugurate a new order of royal ladies in this golden time of expanding thought and of ever-widening freedom! What shall it be? We read in a letter from Paris that the Princess Metternich has become a midnight missionary in that gay and voluptuous city; and that by her sweet pity and right-royal interposition, fifty fallen women have been already reclaimed from the most sorrowful of guilty lives. There is a model for the new line of princesses in the world Republicans though we are, we vote for that sort of royalty here. Give us Yankee princesses, whose titles to our homage are based on angelic deeds, whose brows are gleaming, not with such vulgar and hackneyed things as diamonds, but with mercy for those to whom society shows no mercy, and with forgiveness for the unforgiven. Let the new age usher in the new lineage of lady-sovereigns, who will illustrate to us the nobler queenliness of active exertion for the stained and forlorn sisters whom masculine brutality has first betrayed and then flung away. It is often said bitterly of good women, that they are the most harsh and unrelenting in their thoughts concerning women who are bad. We doubt this. But, at any rate, when the new princesses commence to reign, it will not be so. Who can lift up the fallen woman? Man has mused over the problem, and has done nothing! Perhaps, now, it is to be seen that the true saviors of woman are women!

THE IRREGULARITIES OF THE TEETH.—The period of second dentition usually occurs when the child is from five to eight years of age. It is not always possible to decide during the process of this dentition whether there will be irregularities or not. In most cases, what appears deformed at first, disappears when all the teeth appear. Still, it is important that parents keep a careful watch of their children's mouths during second dentition, and consult the dental surgeon before the parts have become hardened. A misplaced tooth can much more easily be drawn into position in a child than in an adult. A beautiful set of teeth are a great ornament, as well as of great value, and we can not too assiduously care for them during the growing age. Sound teeth at the age of twenty will usually last during a long life-time, if properly cared for; but if unsound, there is no end to the pain they occasion one, and hardly any end to the expense of constantly patching them up with filling. "A stitch in time" may save more than nine.

COTTAGE HOSPITALS.—The medical men of England are discussing with a good deal of warmth the question of cottage hospitals against those now in use. Large hospitals, it is claimed become insalubrious in a few years, while small ones do not. May it not, however, be caused by want of absolute cleanliness in the large hospitals that causes their insalubrity? More attention to ventilation, and the use of disinfectants, more hygiene and less drugging, would make all our hospitals very different from what they are.

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How to Treat the Sick.

THE CURABILITY OF DRUNKENNESS.—Inebriates constitute a peculiar element in society. They are not criminals, and are not, therefore, amenable to legal punishment. They are not insane, and hence do not need confinement. They realize, however, for themselves, and the community is beginning to realize for them, that remedial appliances of some kind are needed for the purpose of enabling them to recover from the offensive peculiarity which distinguishes them from other men. They may possess intellectual or moral obliquities, or be deranged by positive disease, or by physical organizations for which they are not wholly responsible, and which a wiser philosophy than now obtains will some day trace to their prenatal history.

CLASSES OF INEBRIATES.

For the purpose of treatment they should be divided into distinct classes. It is not to be denied that a considerable number (say twenty per cent.) are irreclaimable, and these may be denominated confirmed drunkards. Such are, either by reason of moral infirmity or structural disease (while exposed to temptation, at least), beyond the reach of entire recovery. The body is broken, and its vital force enervated. The will can no longer even assert itself intelligently, much less perform its functions. To protect such unfortunates and their families from injury, and their property from damage, the law should be employed, as it is in cases of other dependent persons. They might, with propriety, occupy an infirmary or hospital department in an institution designed for incurable inebriates.

The next class to be noticed are habitual drunkards, in whom the habit is not confirmed by supervening disease, but who drink daily or repeatedly, attend in some sort to business, and are frequently, by nightfall or later, narcotized. They sleep away the dark hours, and awake again with the morning to thirst and drink, to thirst again, and continue drinking. Such men, while they are able to attend to their affairs, do not often appreciate their real condition. It is difficult to convince them of their danger; and yet, when they once realize it, and submit to proper treatment, they are hopeful cases, yielding readily to remedial measures. Habitual drunkards generally fall into the habit almost unconsciously. Social influences, or perhaps business reasons induce it. At first they have no fondness or longings for stimulants; the desire for them being created by creating the conditions which demand their use. The habit can be broken, however, and the counter habit of abstinence established, while the moral nature can be trained to take new views of life; and when it comes to realize that drinking is neither essential to the enjoyment of society nor to success in business, it is not difficult for such men, after the system has been renovated, to confront the world again and be successful.

The next class to be named are periodical inebriates, in whom there is, in my opinion, frequently, if not universally, an inherent diathesis, which renders its possessors peculiarly susceptible to causes of excitement. It is difficult to define the condition to which I refer; but I know that in such persons disappointments and successes, afflictions and enjoyments, or indeed any thing that is unusual in kind or degree, disturbs for the time being the moral balance, and the consequent unrest, either in the form of enervation or exhilaration, as the case may be, inclines them to seek

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a satisfying remedy. Some men drink alcoholic liquors, and others resort to opium, or similar narcotics; while such as have moral or religious convictions that are equal to the emergency, may seek repose and meditation, or congenial recreation, until the period shall have passed.

This is a most interesting and numerous class of persons. They are led by an uncontrollable impulse into excess, and suffer the keenest remorse and anguish of spirit when it is over. They should have a place of refuge to which they can go when they feel the necessity for it; and where they can remain under proper guidance till the "spell" (as they call it) is passed. Better still would it be if such men could remain in an institution long enough for their peculiar diathesis to be corrected or substituted. They would then be able successfully to meet the duties of life without the necessity of resorting frequently to a place of refuge for temporary relief. Having glanced thus briefly at the classes to be treated, and their several general conditions, the modes of treatment within the walls of an institution may be noticed.

DRINKING MEN AND THEIR RIGHTS.

No class of men are more jealous of their rights than drinking men; none value more highly their independence, and none resist more persistently any effort to control their judgment or impair their liberty. Admitting this position to be assumed by inebriates themselves, and admitting that the law does not presume to reach the first causes of intemperance, which reside in the individual, we find that our true method of approach to the inebriate is through his own sense of necessity as a diseased person. If his nervous system is primarily at fault, or his moral nature enfeebled, either by transmission or association, or if there is some local disorder for the relief of which he uses stimulants; in either case he is anxious for relief, provided he can obtain it without costing him his self-respect or personal comfort. Thus, from the very nature of the subject, as we view it in its social and physiological aspects, there are certain prerequisites which at once suggest themselves, as important in a well-organized home for the cure of such persons.

The fact that an inebriate surrenders himself voluntarily to the custody and care of an institution, is an admission on his part that he needs protection and guidance; and the fact that the institution receives him under such circumstances, implies a contract between them: that he, for his part, requires certain aids, which the institution, for its part, agrees to furnish, and it is due to both that the terms of the contract should be clearly understood.

SELF-GOVERNMENT.

As the great thing to be learned by inebriates is self-government, their association in an institution for mutual profit affords a good opportunity for trial in this direction.

On the part of the institution, it might be well to present each inmate, after his arrival, with a printed card containing the house regulations as to hours for meals, sleep, baths, etc., and a few brief sanitary instructions, with the signature of the physician attached. In return, the patient should subscribe to a code of ethics, upon which all should agree as a basis for their intercourse among each other and the officers. This code should embrace the following conditions:

CODE OF LAWS.

1. A recognition on the part of the signers of the necessity for placing themselves under treatment.

2. An acknowledgment of the fact that in order to promote the general good and comfort of all, they will cultivate a spirit of good will and accommodation toward each other and the officers, that there may be complete co-ordination of purpose and effort among all members of the household.

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Thus there would be a somewhat formal and yet simple and reasonable exchange of conditions, which all could readily understand.

In view of the difficulty of accommodating several hundred inmates of incongruous social and intellectual conditions under the same roof, without some bond that can be mutually respected, or some mode of classification that will be appropriate and inoffensive, it is suggested that separate buildings, or separate compartments or sections in one large building be provided for distinct groups or families of patients; no single group to exceed twenty in number. Let each have it so wn appointments for lodging and amusement, and a corresponding section of a common restaurant.

Another provision should be made, which, in my experience, has been found to be desirable, namely, the arrangement of suites of rooms for families. A husband may desire to accompany his wife, or a wife her husband; in which event they should be provided with private apartments. There are many such cases.

Groups or families, though located thus for social reasons, would, of course, meet together for divine worship and at public entertainments, as is the custom in the outside world. Such an arrangement would also admit of interchange among the several groups of those social amenities which are the expression of refinement and pleasure in general society. As far as may be, an officer of the house, or faithful employee should domicile with each group. An infirmary should be located in or adjacent to the building, in which patients may be placed on arrival, as already indicated, and which might be used for special hospital purposes in the event of an epidemic or other calamity.

OCCUPATION AND RECREATION.

For the purpose of occupation and entertainment, the inmates will naturally divide themselves into three general divisions:

1. Men of education, with tastes for literature, science, and art, who can always find agreeable and profitable pastime in the pursuit and application of knowledge.

2. Mechanics, clerks, and others of fair business experience, who have been habituated to toil, and though without general culture, have natural fondness for the beautiful in science and nature, and who are ambitious for improvement.

3. Idle men of means, who have little care for occupation of mind or body, except so far as they be passive recipients of pleasure or instruction from others; and a class of artisans and employees who are satisfied with inferior pursuits and attainments.

To meet these several conditions, the natural and physical sciences, the arts and mechanics are available for illustration and practical use. An announcement should be made that the institution contemplates not only physical and moral training, but the use of every means possible to beguile men into paths of sobriety and virtue, by lectures, music, readings, amusements, and studies, as well as by all the useful industries of husbandry and the mechanic arts. It should be a "university of social discipline," the grouping of its inmates being founded not on etiquette or diplomacy, but on real affinities, which would centralize upon mutual good faith as the bond of unity.

No patient, voluntarily committing himself, would fail to recognize the value of such a bond, or of the pleasing and useful occupations which it imposes; but should he fail to comply with the course prescribed, he could find his proper level in the infirmary. It is better for the institution and for the patient that such a standard should be established. Better for the institution, because it would not be annoyed by promiscuous association with incorrigible persons. Better for the patient, because he can scarcely fail to be benefited and finally recover.—*Dr. Joseph Parrish.*

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ANSWERS TO CORRESPONDENTS.

BY A. L. WOOD, M. D.

Why we Lose our Teeth.—In civilized society a complete and perfectly sound set of natural teeth is a curiosity. If teeth continue to deteriorate as fast during the next fifty years as they have during the past, the people will then scarcely have any teeth at all except such as the dentist furnishes them to order. This decay and loss of teeth is confined to man, and mostly to the civilized races of men. Where is there an animal on the face of the globe, except some domestic animals kept by man in the most unhealthful conditions, that loses its teeth by decay? The Indian, the negro, and the less civilized nations and races generally have good teeth. What is the cause of this premature loss of our teeth?

Dyspeptic stomachs, saleratus bread, tobacco, drugs, uncleanliness, etc., have much to answer for as causes of decaying teeth, but the cause which I desire to call particular attention to, and which is of more importance than any other, though generally overlooked, is that the teeth are not made of suitable materials. Teeth are very largely composed of mineral substances, as phosphate of lime, carbonate of lime, silex, etc., and in order that they may be sound and perfect, food must be eaten which contains these mineral substances. As well expect to make a perfect steam boiler of sheet lead as to make perfect teeth of such food as fine-flour bread, fat meat, sugar, starchy preparations, etc., which do not contain the elements needed. If people will only substitute unbolted wheat-meal or graham flour in place of the superfine flour now so generally used, their health and strength will not only be greatly improved, but their teeth, and especially their children's teeth will be harder, stronger, and much less subject to decay.

Pimples, and How to Prevent Them.—"In Cutter's Anatomy, Physiology, and Hygiene, on page 290, he gives the following observations: 'Among the inhabitants of cities, and especially in persons who have a torpid state of the skin, the contents of the oil-tubes become too dry and dense to escape in the usual manner. Thus it collects, distends the tube, and remains until removed by art. When this impacted matter reaches the surface, dust and smoke mix with it; then it is recognized by small, round, dark spots. These are seen on the forehead, nose, and other parts of the face. When this matter is pressed out the tube gives it a cylindrical form. The parts around the distended tubes sometimes inflame. This constitutes the disease called "acne punctata."'

"We notice in many persons these protruding conical shaped substances. They break the surface of the skin, and render it offensive to the sight and repulsive to beauty. You will confer a great favor upon a new subscriber by stating in THE HERALD, how this disease can be cured, and the smooth unbroken surface of the skin, so essential to beauty, restored."

The causes are, imperfect digestion of food, over-eating, a gross and impure diet, a torpid condition of the liver, inactivity of the skin, uncleanliness, etc. To effect a cure, eat moderately of the purest and best kinds of food, improve the digestion, purify the blood, and keep the skin clean and active by frequent bathing and friction.

Colic, its Cause and Treatment.—"What is the cause of colic, and the Hygienic mode of treatment?"

There are several different forms of colic, as colic of constipation, flatulent colic, intussusception, lead colic, constrictive colic, etc. The name of the first mentioned variety plainly indicates its cause—constipation of the bowels. Thorough and frequent kneading, percussion and manipulation of the bowels, tepid enemas, plain diet, composed largely of fruit, and plenty of active exercise will, in most cases, soon effect a cure, and in all, if perseveringly followed.

Flatulent colic is caused by wind in the bowels, which is produced by imperfectly digested food. It is readily relieved by kneading of the bowels, hot fomentations, and warm water-drinking. Kneading alone is often sufficient.

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To effect a cure, remove the cause by toning up and strengthening the digestive organs.

Intussusception is that form in which one portion of the bowel slips into another. It is nearly always caused by constipation. The bowels should be moved and kept free by tepid enemas, frequent sips of ice-water or bits of ice should be swallowed, and cold wet cloths applied to the abdomen, followed by as thorough manipulation as the soreness will admit. If this fails to relieve the displacement, suspend the patient by the feet, head downward, and while in that position apply strong vibration or shaking to the body. This seldom fails.

Lead colic is caused by the presence of lead in the system. Painters and plumbers are most subject to it. Lead is also frequently introduced in the form of medicine, in drinking-water which has stood in lead pipes, or vessels, etc. The pain may be relieved by hot fomentations, or hot sitz baths and warm water enemas. The bowels must be kept open. Warm water should be freely drank. The diet should be of the plainest kind. If attainable, the Turkish and Electro-magnetic baths should be taken as often as the condition of the patient will allow, the object being to eliminate the lead from the system. If these can not be had, the vapor bath or the wet-sheet pack should be substituted.

Constrictive colic is the result of a partial closing of some portion of the alimentary canal, by the thickening of the mucous membrane. Abdominal kneading and manipulation, in connection with a rigidly abstemious diet, outdoor exercise, and total abstinence from all irritating substances, as salt, pepper, spices, alcoholic drinks, etc., is the only useful mode of treatment.

Another form of colic, called surfeit, is caused by over-eating, or by irritating or indigestible food. Total abstinence from food, free warm water-drinking, copious tepid water enemas, and thorough kneading of the bowels, constitute the true treatment.

Fast Eating.—This is one of the most common, as it is one of the injurious habits to which the American people are addicted. Especially is this true of business and professional men, although it pervades all classes of society to a greater or less degree. Thousands of business men do not allow themselves over ten minutes for dinner and many not more than half that. They shovel food into their stomachs as a laborer would shovel dirt into a cart; when they get loaded they stop, and the load is about as heavy in one case as in the other. It is no wonder there are so many broken-down dyspeptics. The only wonder is, how the human stomach can stand such treatment as long as it does. In order to have good digestion, the food needs to be very finely divided, so that the gastric juice of the stomach can come in close contact with all parts of it. If it is in large lumps, it takes a far longer time to digest it, as it can only dissolve from the surface, and it is apt to ferment and turn sour before digestion is completed, causing wind, acidity of the stomach, and other unpleasant effects. The food not only needs to be thoroughly masticated in the mouth, but it should be completely saturated with the saliva before entering the stomach. This can only be done by having the food retained in the mouth and well masticated. The action of the saliva upon food is an important one, turning starch into sugar, and preparing it for perfect digestion in the stomach. Slow-eating is important on another account. When food enters the stomach, it should be at the same temperature as the stomach itself. By being sufficiently masticated and mixed with the saliva this object is accomplished, and digestion is not retarded by having cold food thrust into the stomach. Dyspeptics would be greatly benefited, and many cases of dyspepsia prevented, by substituting slow for fast eating. Half an hour should be the shortest time allowed for an ordinary meal.

Cut on the Face.—"What treatment would you suggest for a cut on the face, of some three months standing? I thought it unsafe to apply the adhesive plaster; caught a cold in it, and now after three months, still shows an ugly red streak in the cut. My belief is that the cut will always remain, but the redness will disappear and the streak become white. Am I correct, and what treatment would you advise?"

You are right. Bathe the scar frequently in cold water, and rub it often with the fingers. Be out of doors as much as possible, and improve the gen th.

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NOTICES OF NEW PUBLICATIONS.

VITAL RESOURCES; or, How to Become Physiologically Younger and Stronger. Being a scrutiny into the domain of the laws which Nature sometimes marvelously resorts to, and in its restorative powers. New York: Published by the Author.

Among the many interesting chapters contained in this little book are, Plurality of Personality, Hereditary Influences, Marriages of Consanguinity, Maternal Impressions, Power of Mind over Body, Transforming Power of Mind, and why Marriages of Consanguinity restrict Vital Resources. The work is full of facts of interest to all students of physiological phenomena, and will repay a careful perusal. We learn an important lesson from the chapter on Appetency, that often a change of plan and business is not the result of fickleness of mind, but an absolute necessity to the individual who has exhausted all the resources of growth and development, furnished by his occupation or location, and must have new surroundings and work to make life tolerable. Perhaps this also explains in part why children so frequently find it more to their taste not to follow the pursuits of their parents. They are already sated with the good of these pursuits, and crave what they can not find in them to develop a more harmonious nature. This fact is worthy of the study of parents who have children for whom they seek occupations.

THE TONE-MASTERS. By Eben Tourgée.

This book is the first of a musical series for young people, and presents us in an exceedingly attractive form the story of the lives of Mozart and Mendelssohn. We are glad of the promise of more of the same style and interest.

The book supplies a great want in juvenile literature. The songs and music of our great masters are familiar to us as are the proverbs and sayings of Shakspeare, and yet comparatively few of us know to whom credit is due for the pleasure they afford us.

This series proposes to present us the leading facts in the lives of the great composers, a description of their best works, the circumstances under which they were written, and analyses of their construction and peculiar excellencies. Published by Lee & Shepard, Boston.

TEMPERANCE ANECDOTES, Original and Selected. By George W. Bungay. New York: National Temperance Society. 1870. Price $1 00.

This little book is a collection in convenient form of a large number of short, pithy, and laughable stories and anecdotes, each of which is designed not only to afford amusement to the reader but at the same time inculcate lessons of sobriety. It will afford much merriment we are sure, and if it could be read by the topers (alas, they will not read temperance literature), we think some of them would come to their senses and drink no more.

DIALOGUES FROM DICKENS, for School and Home Amusement. Arranged by W. Eliot Fette, A. M. Published by Lee & Shepard.

The book consists of forty-five dialogues, varying in length and in the number of characters, all of which are within the ability of school children to perform, while their faithful representation will give ample opportunity for the display of dramatic talent in adults who may wish to make them a part of an evening's entertainment. Stage directions are given in the book, with a very suggestive index to characters and costumes.

A GUIDE BOOK OF FLORIDA AND THE SOUTH. For Tourists, Invalids, and Emigrants; with a Map of the St. John River. By Daniel G. Brinton, A.M., M. D. Philadelphia: Geo. Maclean.

Dr. Brinton in his book, has not aimed at literary effect, but has made a neat little volume, which may profitably be consulted by those who wish to go South, and who wish before starting to know when, where, and how to go.

CAUSES OF INFANT MORTALITY. Being a Brief Account of the Origin of the Feebleness and Diseases which Afflict and Destroy so many Children at Five Years of Age. By John W. Thrailkill, M. D. St. Louis: S. W. Book & Publishing Co.

This is a valuable little pamphlet of sixty pages, which every mother, present and prospective, would do well to read, and better still to heed its teachings. It deserves the highest commendation.

THE PUBLISHERS' DEPARTMENT.

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Mrs. Gleason's Book.—We have now sent out Mrs. Gleason's book to all who have ordered it. We are confident that it will give satisfaction to the thousands of American women who will read its pages. It is eminently a book for women by one of their own sex, and from a woman's standpoint. Heretofore such works have been by men, and from a man's standpoint, and valuable as such works may be, they are necessarily imperfect. The work is high-toned, pure and chaste, and just such an one as mothers need for themselves and their daughters.

We want women agents, of good moral character, to sell the book everywhere. To such our inducements will be satisfactory. A copy of the work will be sent, by mail, for $1 50.

Wanted.—Will our readers please send us brief items of news and experience referring to Health and Physical Culture topics. Make them pointed and practi-

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cal, and we will publish them for the benefit of others. Do not mix them up with business or personal matters, but on separate sheets of paper and in readiness for the printer.

A Splendid Prize for the Subscribers to Demorest's Monthly, universally acknowledged the most useful, entertaining, and artistic magazine in America. A large, fine steel engraving, "The Picnic on the Fourth of July," a splendid Parlor Picture, and cheap at $10, presented as a premium to each subscriber who pays $3 for one year; also, splendid premiums for clubs, each of whom gets the magnificent engraving. Specimen copies of the magazine, with circulars giving full particulars, mailed free on recipt of 15 cents. Address Demorest's Monthly Magazine, No. 838 Broadway, New York.

Elizabeth P. Peabody's Opinion of THE HERALD OF HEALTH.—I do not know how many new subscribers you get, but I do know you have no more faithful canvasser than I, who exhorts all my acquaintances, old and new, to subscribe to THE HERALD OF HEALTH, as the most useful monthly visitor that can come into a family, whether moral or mental or physical health is the question.

A Good Sewing Machine is given free for a club of 35 subscribers and $70. This premium is very popular. If there is a poor, deserving family in your neighborhood help it to get a good sewing machine by subscribing at once. Perhaps your minister's wife wants one. If so, help her to get it, by helping her to get up a club. The Empire is one of the best sewing machines in use, and we are sure that it will give you good satisfaction.

Home Treatment.—Invalids wishing prescriptions for home treatment can have them for Five Dollars. They should send full particulars of their cases. Any person sending five new subscribers to THE HERALD OF HEALTH and Ten Dollars, will, if he does not choose other premiums, be entitled to a prescription for treatment free.

Facts for the Ladies.—I have used my Wheeler & Wilson Sewing Machine six years without the least repairs, doing all my family sewing, consisting of coats, overcoats, pants and vests, down to the finest of sewing, even *patching* old coats and pants. Beside that, I have earned six hundred dollars ($600) in the six years. I earned thirty dollars with one needle. Give me the Wheeler & Wilson in preference to all others.

New Milford, Ct. MRS. LUCY DURGY.

Caution.—Our friends in writing to us will please be very particular and give Postoffice, County and State with every letter, and not depend on us to remember where they live, though they may have told us a hundred times. Those who think we can turn to our books and find their names and address without trouble, are quite mistaken.

The Picture of Humboldt.—We are now sending out the picture promised to our single subscribers for 1870, who send directly to the publishers $2. Lest there be a misunderstanding on the part of some, we state distinctly that those who take THE HERALD at club rates will not be entitled to it. The way to secure the picture is to send your money direct to the publishers.

Correction.—We are sorry to notice that in our general articles, the very excellent paper on Hot-Housing Brains is credited to R. R. Bowler. It should read R. R. BOWKER. Mr. Bowker is the talented Editor of the Literary Department of The Evening Mail, one of the brightest of our evening dailies.

What the Evening Post says of THE HERALD OF HEALTH.—This journal of physical culture evinces in its editor remarkable taste and judgement in avoiding sameness and iteration in the topics it discusses. The range would seem to be narrow, yet there is always some new truth to be discovered in hygiene, and the pure atmosphere of health is the best of stimulants to the brain.

How to Send Money.—In making remittances for subscriptions, always procure a draft on New York, or a *Postoffice Money Order*, if possible. Where neither of these can be procured, send the money, *but in a Registered letter*. The present registration system has been found by the postal authorities to be virtually an absolute protection against losses by mail. *All* Postmasters are obliged to register letters whenever requested to do so.

What to Wear, and How to Make IT.—Every lady should send for a copy. Just what every lady wants to know. Mme. Demorest's Semi-Annual Book of Instructions on Dress and Dressmaking, *for the* spring and summer of 1870. With full descriptions of Styles, Materials, Trimmings, and every thing new and desirable connected with Ladies' and Children's Dress. Price 15 cents. Mailed post free on receipt of price. Address Mme. Demorest, 838 Broadway, New York.

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1. ALWAYS attach name, Post Office, County, and State to your letter.
2. SEND MONEY by Check on New York, or by Postoffice Money Order. If this is impossible, inclose Bills and register Letter.
3. CANADA AND NEW YORK CITY SUBSCRIBERS should send 12 *cents extra*, with which to prepay postage on subscriptions to THE HERALD OF HEALTH.
4. REMEMBER, if you are entitled to a Premium, to order it when you send the Club, and inform us how it is to be sent.
5. REMEMBER THAT WE NOW GIVE the *Empire Sewing Machine* as a premium. It is guaranteed to give good satisfaction.
6. REMEMBER TO SEND in Clubs early.
7. REMEMBER TO LOOK at our Premium List and Book List, and see exactly what we give and have for sale.
8. REMEMBER that for the names and addresses of 25 persons, either invalids or friends of Temperance and Health Reform, we give Prof. Wilson's book on the Turkish Bath. It contains 72 pages.
9. STAMPS should be sent to prepay postage on letters that require an answer.
10. Those who want a good *Spirometer*, *Parlor Gymnasium*, or *Filter* for making their water clean, will find the prices in another column.
11. INVALIDS from all parts of the country are invited to write to us for our circular, and full particulars as to Treatment or Board in the Hygienic Institution. See advertisement elsewhere.
12. See List of Books elsewhere.

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To every SINGLE SUBSCRIBER, who sends us $2 00, we will send

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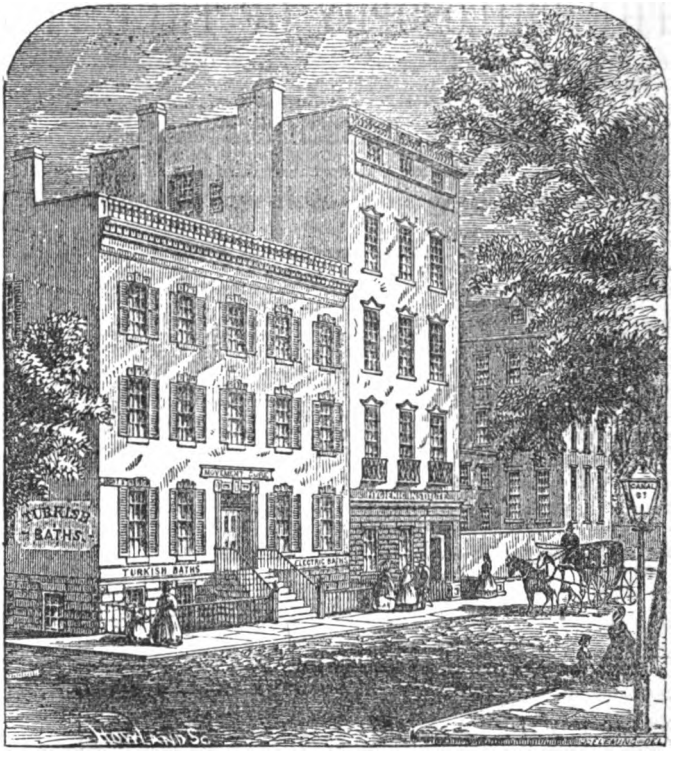

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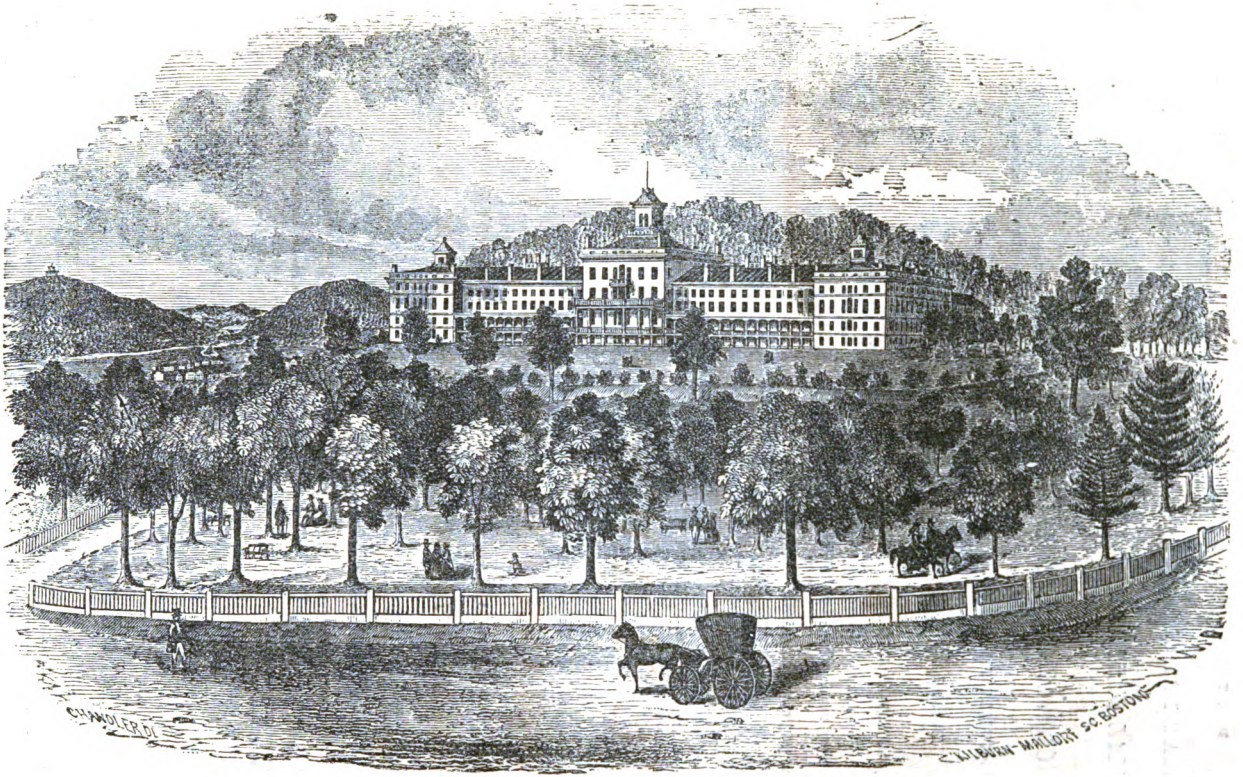

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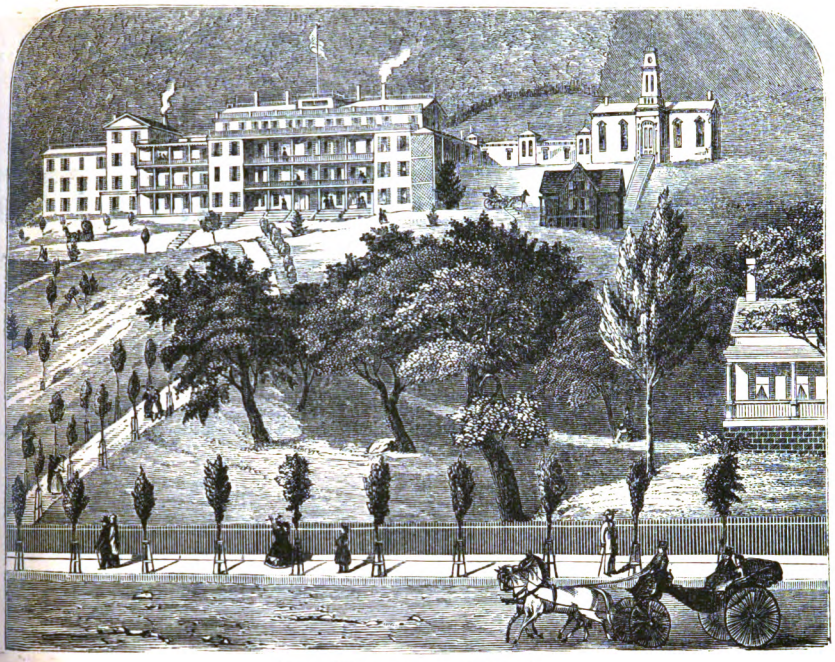

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"'No more,' said Zalinka, softly; 'I may not hear thee.'"

"I think myself you were inclined to be rather sudden," said Rodman, "considering you had eaten but little, and were not in a situation to exchange sentiments."

"That is true, Rodman; and the grave, calm face of Zalinka, who knew more of our danger than I did, was a rebuke to my impetuosity."

"That walk through the underground way was pretty pokerish; didn't you see any wild beasts nor snakes?"

"Not one; but there was something that now and then slapped against my face, and gave out a sort of screeching cry, which was not at all pleasant to feel or hear, but Zalinka told me they were only bats."

"Bats are not agreeable fellows; I've known them to nearly suck the blood out of a man. But go on."

"In my dark retreat I saw the gorgeous light of day die out, and the silence of night rested on the city, where at intervals the slow clang of drum and cymbal told that the sleepless priests wearied the hours with solemn rite or ceaseless sacrifice. The dwarf through a secret passage made her way to the external air, and returned with dry mosses on which we rested. I could not see the face of Zalinka, and when I assayed to take her hand she said, softly,

"'Nay, Teomax, be at peace; the peril is not past.'

"'Will they seek us here?'

"'No, they believe we shall perish in the passage of the cross, which we have closed for ever. No power can remove the stone, which only slides from within, and now the teocalli will be deserted as a place of worship, and its chambers serve only for the dwelling of the priesthood. It matters little, for a mystery and awe will enhance the impressiveness of the place, and redound to the glory of our worship. It will be given out that we are translated.'

"'And Narina, what will be her fate?' I asked.

"Zalinka sighed and wept. 'She must perish—I see no way by which she can be saved; but she knows the fate that awaits her, as it has been that of thousands before her. My mother, beautiful and powerful, perished thus, though my father would gladly have saved her.'

"'Then the priest is permitted to marry?' I asked.

"'They do not marry, their families grow in the silence of the teocalli unknown to the people, and this is a part of the mystery to which all their rites tend. I am called beautiful, Teomax, and when my father draped me in a robe of gossamer silver, and covered my head and arms with pearls, and led me forth upon the area of the high temple, the people prostrated themselves before me as if the very queen of Heaven had been revealed unto them; and I gloried in my power and my beauty, though I knew how it would all end.'"

"Nat'ral that," interrupted Rodman. "I don't think, if I was one of the purty creatur's, I would ever look at us rough men-fellers, but I suppose they want love all the same, and the 'sons of God' that used to be on the earth and make love to 'em being gone, they've nothing better left 'em than us men-fellers. I must say, I've a kind of pity for them, seeing how it's but a poor substitute they get."

"I went on, as Rodman became silent, though my self-love disposed me to dissent from his very moderate opinion concerning the sweaty-browed sex.

"'But, my beautiful Zalinka, you will escape that fate now; you will leave these gloomy walls and go to some far-off land, and there, under happier skies, forget all the horrors through which we have passed.'

"'There is one way by which we can be saved. Listen: The passage through which we have passed is little known, and nearly forgotten. My mother, foreseeing her own death, took me through it, accompanied by the faithful Narita, and she bade me, if sorely pressed, to seek this sanctuary and trust to the great invisible God to help me in my distress. Now listen, and mark me well. This passage, or gallery, is not known to my father, for only the oldest priests ever knew of its existence. It can be closed and lost to the memory of men. Listen: The gallery leads to an old, moss-grown temple, hoary with age, and the traditions of its worship lost and forgotten. Sometimes a faint blue light rests upon the ancient structure, and shadowy forms ascend in long processions from terrace to terrace, and each one as it reaches the eastern verge spreads his hands toward the great sea and is gone, and thus they follow for hours and hours, till the silence of death and the solitude of the grave again rest upon the crumbling mass. The people regard this deserted fane with dread and horror. It had been long since rooted from the earth, but for a tradition that when Matalcingo falls the city falls. Dare you show yourself to the people, Teomax, from the summit of Matalcingo? Dare you speak to the people from this ancient hight, and bid them stay their cruel human

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sacrifices, and bring no more blood upon their altars? It may save the life of Narina.'

"'Will it not rather bring the priesthood upon us and certain death?'

"'Nay, I think not. But we can but perish!'

"'Is there no escape from the city? No other mode of saving thy friend?'

"'None, none. Human sacrifice must cease or she will perish, and the more sadly, that I have deprived her of the means of escape.'

"'Do as thou wilt, Zalinka; I will obey.'

"At the first dawn of day we entered the subterraneous gallery on our way to the deserted temple. No sooner did the dwarf learn our intention than she gave way to the wildest expressions of delight. She clasped her small arms about my knees; she embraced the feet of the priestess again and again, uttering her joy in a language totally unintelligible to us both.

"We must have traveled perhaps half a mile in utter darkness when we entered an extensive room, dimly lighted by a long slit in the wall. In the center, beneath a circular opening in the roof, was a terra cotta brazier filled with coals, and beside it were shells and pearls and opals idly scattered around, as if they formed the playthings of a child, and there, sleeping on a couch of silvery texture, was a creature so small that it looked like a waxen doll. Seeing this the dwarf snatched it up and covered it with caresses. Soon, a being, smaller even than Narita, whose dress was little else than her own masses of black hair, rushed in with expressions of alarm, which were instantly converted to the most frantic joy upon seeing our conductor.

"We now learned that this ancient temple was still the abode of the descendants of the outworn hierarchy, who retained little of their old worship except the perpetual fire. They worshiped the sun in an indistinct way through the symbolism of flame. Wearied, exhausted by the excitement through which we had passed, Zalinka wrapped her vail about her person and sank down by the brazier overcome by sleep. In the meanwhile a troop of pigmies gathered around us, as I sat shielding the form of Zalinka, wee children and solemn old men and women; diminutive lads and maidens, beautiful as the dream of a poet; middle-aged persons bearing the weight of their responsibilities, and plying Narita with a thousand questions. What was remarkable with all was the length and luxuriance of their hair, which was capable of covering the whole of their little figures.

"In the mean time the dwarf, who was no longer a dwarf among her own people, exerted herself for our comfort, and returned to the city for such articles as were needful for the coming ceremonial. She did not need to retrace her steps by the secret passage which we had traversed, but lifting up the heavy vines and shrubs which, growing over the porus rock of which the temple was constructed, had already converted it into a vast hill or mound of verdure, she descended without observation to her accustomed haunts. It would seem that the people were not aware of this pigmy race preserving their ancient connection with the ruined temple, and when now and then one of these weird creatures, in masses of hair, sought a familiar residence among them, no one instituted an inquiry as to whence they came. Had they done so, it would have been to little purpose, for they were to the last degree violent and irritable when in the least interfered with."

"There you have it," said Rodman; "I have always noticed that little creatures are the toughest and quarrelsomest of their kind. Little birds will fly at what an eagle would hold himself aloof from. Little women will fly at your head where a big one would only give you a laugh. It's their natur', I suppose, caused by their skin being too tight for them. Go on."

"The next day Narita returned with certain articles indicated by Zalinka, which she had been able to secure without observation; among these was a certain powder, a portion of which she cast upon the flame when it broke forth in a white light, and an odor not unpleasing to the senses. She reported the priests as eager to ascertain the whereabouts of myself and Zalinka, and she inferred that they believed them in the great cross-surmounted teocalli, from whence we could easily be captured. They had not as yet learned that the secret entrance had been effectually closed against them.

"In the meanwhile Narina was that night to take her place as priestess, amid all the august ceremonials of worship. As the hour approached the clang of innumerable drums and resounding pipes, cymbals, and trumpets, told that a great religious festival was at hand. The whole city was in motion, with the noise and tumult of a great people, and the flash of innumerable torches. The city had gradually grown up around the old fane in which we were secreted, and it now stood solemn, vast, a gigantic memento of an age long since past, and a people lost and forgotten.

"By the aid of the dwarf I was habited in a long silvery white robe, gathered at the waist by a girdle of pearls. My hair, which had grown long, fell in abundant curls over my neck and

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shoulders, and was now profusely powdered by pearls and dust of gold, by which means it glittered like rays of light. When I was fully prepared, I came forth leaning upon a silver cross and approached Zalinka. She was overcome by the splendor of my appearance, and fell at my feet with a burst of adoration."

"I think myself you might have been taking in your looks, George, for you're a handsome man now. I'm never confounded when a woman cottons to such fellers, but the wonder is that they should take to ugly old fellers like me."

"Why, Rodman, you have a certain something that is beauty, in spite of the way you talk. Integrity, courage, generosity, give an air to a man that no mere form of features can impart."

Rodman blushed, the fine fellow, and his eyes opened wide with pleasure; he smilingly said in a low voice,

"I hope *she* saw something like that in me, for it has been a kind of trouble to me lest the poor girl was sort of glamoured and bamboozled in some way, neither true nor wholesome."

"My noble friend!" I cried, grasping his hand, "you are true to the core; and I feel that I am weak and poor in comparison."

"Go on," he replied, dashing a tear from his eye.

"I lifted Zalinka in my arms, and for the first time pressed her to my heart. How ravishingly resplendent she looked! How tender the depths of her dark eyes! How like untold melodies the sound of her voice! Gently she withdrew from my arms, and said:

"'Go, Teomax; your own fate and mine are in your hands.'

"Ascending by difficult steps to the top of the temple, for the passages had fallen to decay and were obstructed by fungus and the debris of stone and clay, we at length reached the summit. Stooping amid the shrubs that grew upon the area above, I waited till the signal should be given by Zalinka. We could, from our eminence, overlook all the ceremonials upon the adjacent teocalli. We saw the young priestess approach the angles of the temple and spread out her hands over the assembled multitude, amid shouts and music and burning incense.

"'O lovely, unhappy Narina!' exclaimed Zalinka. 'Now arise, my love, my beautiful, my descending god, and the gods be with thee!'

"As I stood at my full hight, the white powder, of which I have before spoken, enveloped me in a cloud of mooney light, and a bolt bursting from the clouds above shook the earth from side to side, as if the ancient gods rejoiced with irrepressible joy at beholding once more the flame lighted upon their altars.

"All eyes, the eyes of the great multitude turned to the spot, and rested upon me with awe. They thronged to the base of the mound, and raised their hands in tears and supplications. Lifting up the cross, and bending forward, I spoke to them. I bade them to offer no more human blood upon their altars. I threatened them with the wrath of the great invisible God, above all gods, if they offered any more such blood in sacrifice. I bade them till the earth and bring forth its fruits, and unfold fountains of beauty. I bade them consider that the gods were pleased when their worshipers were humane, just, and upright; that perfect happiness was not designed for man in this world, that all good had its shade or cross of evil here. I told them the gods would send them another messenger, when they would cease their cruelty and revenge, and that now they left their benediction with them.

"As I said this, flashes gathered around the mound, the silvery light enveloped my whole person, and I sank down overcome, by the side of Zalinka.

"In the midst of this vapor we descended to the chambers below.

"'Your father will seek us here?' I asked Zalinka.

"'No; he will believe that I have perished, or I should have appeared at your side. Crafty as he is, I believe he will accept the reality of the vision, and thus my poor friend Narina may escape her fate. Go, Narita, and learn by the common talk, what is the impression made.'"

CHAPTER XVIII.

Shakers—A Shaker Wagon—The Village.

A HEAVY Shaker wagon drove up one day to the door of Mr. Lyford—a four-wheeled vehicle, covered with canvas painted black, and impervious to rain. In front were seated two of the elders habited in plain, substantial gray cloth, with broad brimmed hats. They were fine, stalwart-looking men, well limbed, clear of eye, and upright in shape, with that peculiar color of a ripe, rich peachen hue upon the cheek, which only a pure temperate life and perfect health can place there. They were in the prime of life, both, and yet there was an al-

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most boyish expression of innocency about them; most especially about the younger, who had an uncommon share of manly beauty, as well as a frank, half-defiant air, which he must have subordinated to the meek manners and staid use of tongue pertaining to the order, with much mortifying of the inner man.

Behind them were two of the sisters in the short-waisted gowns of brown, and the scoop bonnets prescribed by the sect. Contrary to the men, the women were thin, pale, and weasened. They wore an indefinable air of suppression and constraint. One, called Sister Maria, however, had a grave, winning smile, and when she spoke her voice was rich, deep, and melodious, like that of one accustomed to its use in matters of moment and authority.

In the rear of the wagon might be seen jars of butter, nice brooms, and dusters, designed as a gift for Cora, which the older of the two elders proceeded at once to remove to the house, while the younger, known as David Parker, assisted the sisters to alight. They were met most cordially by the family, who descended the high steps under the lattice covered with roses and honeysuckles, to receive them.

It was curious to see the spinsters put their arms around the pretty Cora, and embrace her as if she were made of porcelain and must not be lightly handled. It might have been observed that Sister Electa blushed deeply as she gave her hand to David Parker, but their eyes met with a lovely candor, like those of two fair, unconscious children.

"Thee is prepared to go with us, is thee not?" he asked.

Electa assented, but Cora declared that a lunch was on the table, and "I will never touch the butter, nor sweep with the pretty broom, unless you come in and eat some of my nice bread and pies."

The elder assented, looking at her with wide-open, childish eyes of admiration; but Cora knew their rules prohibited them from eating with the "world's people," and she left the room and busied herself in placing her gifts in their proper places, for she was doing her utmost to be a good housekeeper, and make the Professor's scanty salary go as far as possible. Mrs. Pyncham's reprovals were not without a grim utility in this way.

When Sister Electa was about to leave, Cora took her aside, and with a pretty blush and a slight lifting of the eyebrows, said:

"You will not stay long, Electa, will you?" and then taking a corner of the muslin kerchief gracing the shoulders of the fair Quakeress, she pinched it into folds over her fingers, pulled it out smooth and pinched it up again. "Don't you know what it is I want to say?" she asked with a smile and a blush.

"I think I do, dear."

"Yes, Electa, and I'm going to be good, and all that, you know."

Electa kissed her forehead, and laid the soft cheek against her breast. Cora went on:

"George has been dreaming so much of late, Electa, and I need you to keep me happy and reasonable!"

"George is a wonderful man, Cora. Eloquent, wise, learned, with the heart of a sweet child. These dreams do not hurt him."

"I am learning to think so, Electa; but I can not get over that idea of mine that he has a dream-love."

"Cora dear, selfishness is an evil. If we truly love it seems to me that we shall love despite of sleeping-dreams and waking-dreams. Be content to-day, dear, and God will take care of the morrow."

"Come back, do, dear Electa, and help me to be wise and good, and help me to rock the cradle," and so, with an embrace and smiles, the lovely women separated.

Nothing could be more comfortable than this homely wagon of the Shakers, with its pliant springs, ample size, and harness plain but in perfect order; not a stitch wanting, not a buckle loose, not a spot discolored or worn. Then the horses, so amicable, possessed of one mind to go thoroughly through with the duty enjoined, as if the conscientiousness of the order had been absorbed by animate and inanimate objects. Up hill and down dale went the willing creatures, and there is a great deal of that to be done in the roads of Maine, now shouldering their broad sides up a steep hill, and hardly were they well bent to their task, than David Parker sprang lightly out, having tossed the reins to his companion, thus relieving the creatures of something more than a hundred and fifty pounds, though there was not an ounce of superfluous fiber about his handsome compact form. It was a good sight, the way he patted their necks and talked in a low tone to them and his own clear eyes and elastic step were not less so.

Reaching the top of the hill, while the animals breathed, it was natural that David Parker should see a tuft of wild roses and gather them, which he handed to the other elder who in turn gave them to the women, who sat each in her square flag-bottomed chair, somewhat removed from the vulgar gaze of the "world's people,

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each with her white cotton gloves upon her hands, crossed upon her gingham reticule. Each received the roses with a smile, and then with a sigh. Neither knew that she sighed, and neither observed it in her neighbor.

Electa, more impassioned and less strictly bound by the order, inhaled the delicious perfume with a tear that came to the threshold of the lid, but was as instantly repelled. As David Parker resumed his seat and reins, she said, as if she more thought than spoke,

"God has created so much that speaks to the soul, so little to the appetite."

Whereat, the two sisters each placed an elbow in the hollow of their left hand, closed their eyes, and held a rose to the thin, white nostril, exhaling assent by a low groan.

"Yea, yea," said the elder of the two men.

Scarcely a mile of level road and then they came to another hill, down which the well-trained horses squared their flanks to retard the speed of the wheels, tossed their heads, and gallantly passed the ugly slew at the foot, and their easy shoes clattered over the wooden bridge, without a rail to bar out the brook as it brawled beneath over mosses now dark and of a bronzed green, and now of a lighter hue topped with ruby cups—there was the stump fence overgrown with vines, and there,

"Look!" said David Parker, "there is a gray squirrel," and he hardly pointed with his whip before it scud through the old "fantastic roots" and perched itself at the top, where it began to dress its plume with the nicety of a woman combing her hair.

"I'm sure that the creature feels pride," said Sister Maria.

"Yea, yea," answered the elder.

By this time David Parker had sprung again from the wagon to relieve the horses, of course, for a staid Shaker, high in office, high in the confidence of the sect, is not supposed to feel any of the mercurial tendencies of the "world's people."

When he returned to the wagon at the top of the hill, his face had a glow of manly beauty, and his eyes a look of manly force and self-reliance plainly to be seen, though there was a spatter of water under one eye, which must have come from the champing bits of his favorite horses. It was a fair prospect now, a school-house was hard by, and the children, with straw hats or a blanket pinned over the head, came running out book in hand, and almost bumped their heads against the horses in their eagerness to bow to the "Shakers," who were regarded with much the same kind of interest that might pertain to a Chinese Mandarin, or Dancing Dervish in the benighted districts where these specialties are of rare appearance.

The white church-spire, the clank of the anvil, and the rush of the mill-wheel told of one of those thrifty villages which abound in this prosperous and favored region. The old elder had several boxes of seeds to leave here and other small commissions, and soon a head might be seen at almost every window intent upon seeing the "Shakers." The blacksmith appeared at the door of his smithy in his leathern apron; the shoemaker, he always has a very large window to his bird-cage of a shop, held his two waxed ends aloft while he took a good peep; the minister, emerging from his door, eyed them with the corners of his mouth drawn down and his eyes rolled up, for to him they were dangerous heretics, worse than the heathen; the milliner held up a gay bonnet with a laugh, as Sister Maria peeped out in that direction, who in return smiled her grave smile and shook her head; the tavern boiled over from cellar to garret, where dinners were being cooked, and pillows and beds seemed intent on crowding outside and leaving the premises in disgust.

Soon the wagon was under way again; past the shops, past the white houses with green blinds, modestly retired from the street, and fronted with lilacs and rose-bushes; up the rise and spacious area where the tavern was flanked by stables and sheds, and vehicles of every kind were standing here and there with horses of every hue and shape, with their long traces and high wheels and swinging whips, as if the very idea of a horse involved whip also; wheeling with a sweep past the church, and the "Methodist meeting-house" further on; out again to the open country; past old farm-houses painted red, and farm-houses with only the beautiful tint imparted by time; houses with fences and without fences about them; houses with a green area in front, and the remains of an old yoke half buried in the grass, upon which sat a barefoot child, who covered his eyes with a round brown arm and peeped out under it; houses with a board fence laced with children, whose yellow heads gleamed in the sunshine, and whose naked toes pinched the fence, while they tossed their arms and shouted at the "Shakers," and an ill-conditioned dog darted out from an old cart and barked furiously, his tail so tightly coiled that it was a wonder that it did not twist itself off; past great rich farm-houses with barns so full, that they seemed to be crowded and aching with repletion, and the poultry too used to people to be afraid of them; the cattle

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too lazy to more than chew their cuds, except several young untamed colts which trotted up and whinnied over the stone wall; but the great dog did nothing more then lift up his head and look at them, he was too well-bred to bark; and the handsome girl, who stood at the second-story window shaking a tick which she held in her teeth into its white linen case, afforded them but a passing glance, or she released the pillow and gave it sundry tosses and pokes and slaps, which ought to have been very gratifying to it from such pretty hands; and so on, up hill and down, turning now to the right and now to the left, they at length came to a descent, where there was a lovely lake and ledges of rock, tufts of pine in the distance, groups of elms with long branches parting and waving and covered with foliage down to the roots, making one think of a graceful woman with her children clinging to her skirts; willows turning their silver side to the light as the high breeze whispered, "now is the time to look your prettiest;" and far as the eye could reach adown the vale were orchards, the trees so regular that you were sure they had been compelled to toe a line as children do a crack at the public school. It was a peaceful, prosperous-looking place. An austere man, with wrinkles of every size and shape, swung open the great gate, which did not groan or creak any more than the wheels of the wagon, which moved without a sound, as they swept up the avenue, the horses whisking their tails with satisfaction, and the elders looking pleased as the brethren and sisters of the order came forth to meet them.

And this was the Shaker village of ——— not many houses—and these large, square, unpainted, two stories in hight, with a broad hall from front to rear. The floors were without spot or blemish, white as boards could be. The clear, small-paned windows, three to every room, were shaded with scanty curtains of blue and white check. The tables were white, and each had a white cloth and a pretty basket in the center, in which were placed several stockings in process of being knit, the polished needles looking like fine instruments of torture. The chairs were straight-backed and white, upon the pummels of several, shaped like an apple or globe with a nipple at the top, hung gingham bags, every string of which was tight and evenly drawn. Such wonderful beds! never a stain or rumple, the blue and white coverlids falling upon every one just so far and no more, showing just so much of the legs, bulging at the calf where the coverlids reached, and tapering to an ankle, seeming hardly decorous in the bedsteads belonging to so decorous a community. How plump, fat, and inviting looked the feather-beds! Let doctors talk as they like, there is nothing in a cold climate equal to a feather-bed—soft, warm and electrical; it is said people do not die as quickly at least upon feathers as upon a mattress, which is proof positive that they are good for the living, and help to ward off the last great encounter.

CHAPTER XIX.

The Log Drifts Seaward—David Parker.

JOHN STEARNS did not come forth to meet Electa, though he had written for her to meet him there, and had preceded her by several days. She found him seated in a high-backed, square-built arm-chair, which, so far from ministering to any ideas of comfort, looked rather as if designed to hold the body just at an angle which precluded any idea of such a thing, serving to sustain it and no more. He was greatly changed since she had last seen him and was wasted and haggard. An old elder and Sister Maria were present at the interview, who seated themselves one at each end of a small table that stood between the windows, where the one busied herself with knitting a pair of blue stockings, which, judging by the size and length, must have been designed for a large man; and the other with his lank limbs crossed like a pair of trowsers over a rail, slowly twirled his two thumbs now from and now toward the scoop in his waistcoat which indicated the location of a stomach.

The chair of John Stearns had its back turned toward the elders at the other end of the room, and he motioned Electa to one standing in front of him. He fixed a long, earnest, solemn gaze upon her face, and then uttered a deep groan. With a trembling movement he took the small silver box, of which we have before spoken, from his pocket, and held it in his closed hand.

"I have tried to hold my peace, and bury my sin with me in the grave, but God is stronger in his judgments than we poor worms of the dust, and he compels me to speak."

"Why should you speak to me, John Stearns?" asked Electa, with a startled look.

"Because I have so longed to hear a voice which I shall never hear, and yours is like it." He turned the box over in his hand as if about to open it, and then twisted the sleeve of his coat between his fingers, and subsided into that worn, despairing look so often manifested by invalids.

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"If thee has any thing on thy mind, John Stearns, it is better to face it bravely. Thee gains nothing but prolonged misery by holding silence."

"I had hoped to mend my life and do a man's work in the world, but I have been confused and worried, and have never seen my way clear what to do."

"Have I any thing to do with thy unhappiness? if so, I would do much to relieve thee."

"I will tell you a story that happened to a neighbor of mine." He spoke with an eager, appealing look, pitiful to behold.

"I will make my story short. He was a young man living in Quebec, well to do and well respected, an official in a public office. He married, as young men will, too young, and she with no wealth but her goodness and her beauty. She was one of those women that men are never happy with; somehow they take too much from us, and we are made the more hard by their very perfections."

"And we are made the more hard by their perfections," Electa repeated, as if struck with a new thought. He proceeded.

"She was tender and confiding, and the moodiness of my neighbor distressed her; but there was one thing in which she did wrong—one secret which she held, and that became the foundation of great misery, and the man has tried to cover up his sin by imparting some blame to her."

"It is our own individual acts, without reference to any other human being, that are good or bad."

"It may be so, Electa. Well, she held her secret. She became the mother of a child, and after that something seemed to change her. She grew nervous—something troubled her—she wept much, and was often absent from her home and child, and when she returned, she seemed utterly prostrated with grief.

"Her husband tried to obtain the secret of her trouble, but she implored him to overlook it, to bear with her, all would come around right, and she would explain all to him; but he was impatient—he grew wrathful at having the peace of his household destroyed. He lost his faith in her, and secretly watched her." Here he held the box to his breast, and the hand that held it moved up and down, as if a great anvil beneath labored under heavy blows.

"He followed her one morning to a solitary place in the outskirts of the city. He saw her enter a thick copse of wood and undergrowth. He hid himself behind trees and followed, for she looked about her as if in terror.

"'Come on,' said a rough voice, 'have done with fooling, and give it to me. Do you want the hounds upon me?'

"A man rose from the bushes and approached her. He recognized in him a young man, who two years before had been sentenced to imprisonment for a robbery, and on the conviction of whom, he, the husband, had been one of the jury. He had escaped from prison, he well knew. He saw his wife give money into the hands of this felon, and he saw her rush forward and fling her arms about his neck.

"Quick as lightning he sprang upon the pair. He dashed the woman to the earth, and God only knows what more he would have done, had not the wretch plunged a knife into his breast and made his escape. Insensible and bleeding, the two laid there till a hunter and his dogs found them and gave the alarm."

Convulsed almost past utterance, John Stearns finally broke forth, "She was dead!"

"And she was my mother!" exclaimed Electa. "And you killed her!"

"Even so, my child!" and the wan, imploring face he lifted to hers—and the pale, trembling hands were pitiful to see.

"And who was he?"

"Her brother! and she had held the secret from me that she ever had a brother."

"Thank God! and yet I would have had faith in her were it otherwise!"

He opened the box, and the long, beautiful hair, with its tangle, streamed in the light.

"It was hers; I knew my mother kept it, but I never looked upon it till she was gone." After a pause—

"My child!"

But Electa walked the floor with her head raised, the hair streaming between her fingers, and murmuring,

"O mother, mother!"

"My child! can you not speak to me?"

"I can not speak. I can not think. I can only feel."

He sank back in his chair with a despairing groan.

"Why do you tell me this?" and she stood with a stern face looking down upon him.

"Because I am a weak, bad man, and could bear my misery no longer, when I knew for certain that the face I had seen, and the voice I had heard, no matter how, belonged to her child."

"O mother, mother! To think of the happiness of having a mother's love! Oh! Sister Maria, bear with me!"

"Yea, yea," responded the good sister.

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"Nay, nay," cried the old elder; "these affections are carnal, sold under sin. I will call David Parker," and he arose and went out. Soon he returned with the young elder, who must have known beforehand the story of John Stearns. He was very pale, and hesitated to speak.

"David Parker, I know all you would say. Speak not till this tempest within me be overblown. My mother! mother!" and she walked the floor repeating the word, as if it called up an untold tenderness from the deepest fount of her existence.

David Parker listened as if this tempest were a new and wonderful revelation to him. His lip trembled and his cheek paled. Then he approached her, and laid his hand upon her arm, how softly, how tenderly, "Electa!" He did not say Sister, only "Electa."

She leaned her head one moment upon his shoulder, and all the flood-gates of her tears were loosed.

"Nay, David," said the old elder; "thee forgets thee's calling. Thee is on the brink of destruction."

Electa lifted her pale face and approached John Stearns. He was hushed, pale, silent.

"God forbid that I should add any pang more to thy wretched heart."

"An old log, twisted, knotted, of no use in the raft, left to drift out to sea," muttered the mill-man, dreamily.

"Father, forgive me," whispered Electa.

"Lillie! had you only trusted me! only trusted me!"

"Father, that is all over, all atoned for. Be comforted, dear father."

"I saved all my earnings, and gave all to your child, Lillie."

His eyes were half closed.

"Dear father, look up! I will comfort you."

"I tried to bring it round right, but 'twas all crooked—full of knots! cast down the stream! drifting! drifting!"

Electa did not see how the room was filling, and how the elders stood with bent heads; and the sisters in their broad-strapped shoes and high-shouldered gowns, with plain hair under their white, plain caps, had entered, each pale and solemn; nor did she move from her father's knee, though the rich, manly voice of David Parker was uplifted in prayer; nor did she know when the laboring heart ceased to beat, and the plash of the eternal tide laved the warped and water-worn spirit that had ceased to contend with its onward drift.

It was David Parker who lifted her from the floor—did he look into the pale face? did he press the inanimate shape groaning to his heart? Who shall say? The sisters laid her gently down as they had laid the child down, years and years ago.

The body of John Stearns was laid in the ground within hearing of the mill of the Shaker village, and the community returned to its accustomed round. Electa, pleased to be occupied, went from place to place, resuming her old familiar occupations, now in aid of the assortment of seeds, and placing them in their neat, paper bags, to which the name and mode of culture was carefully appended. Now manufacturing those perfect diminutive baskets, constructed of the fibers of the linden tree, and so coveted as receptacles for sea and mountain mosses, or placed upon the table, imparting a look of taste and comfort and industry to a lady's room. She turned the low wheel for the spinning of the snowy thread of linen; she stepped lightly back and forth at the large wheel producing the pure, even threads of worsted or woolen yarn, for Electa was a skillful workwoman, and the community were proud of the training they had given her.

The Shakers are industrious, but not toilsome. Thoroughness is the prevailing idea; nothing is imperfectly done, hence, the public confidence in them is never weakened, and a Shaker product takes precedence of all others. Plain are they, simple, even austere, but there is a pervading air of comfort, if not ease, and a self-reliant pride in themselves and their doings, and their growing influence upon our ever-changing, ever-experimenting people, who seem for ever just on the threshold of solving the problems of human society, and seeking that ideal for which sages had struggled, martyrs died, and poets dreamed.

The flower-garden was rich in garniture, and rich in all herbs that might have been familiar to Solomon when he studied the hyssop upon the wall and the cedar of Lebanon. Here children adopted by the community were taught those light avocations which were best suited to their age, not precluding that delight to a child of climbing a tree and riding upon a fence. Sturdy, brown, healthful boys and girls were there, who, if unpossessed of the graces of society, were never likely to become its pests. Cats were numerous, and kittens petted here as elsewhere, for the granaries were extensive and the rat a skillful depredator, though it is doubtful if human beings would not persist in harboring the friendly dog and dainty cat, even if

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they were of no use other than in being companionable.

Thus the days wore on, and Electa recovered her wonted serenity. On the Sabbath she divided the services of the day by an exhortation to that high, spiritual growth which is the end and aim of life, and then her clear, silvery voice rose above the sharp tones of the sisterhood, as they moved in solemn dance, singing hymns of praise and songs of adoration to God. The low, plain place of assembly, and the quaint solemn air of the worshipers, had a touch of primitive sanctity about them as they circled round, each with eyes lifted upward and hands slowly moving in concert with the voice. It might be observed that the floor was worn smooth in the pathway of this religious dance. Several of "the world's people," who had come from the neighboring villages, occupied seats along the side of the walls, and these though at first disposed to more than smile at the grotesqueness of the dance, were soon subdued to a sense of mysterious and solemn sympathy.

The Faults of Character.

BY REV. HENRY WARD BEECHER.

IT is difficult to define exactly what we mean by *a fault*. There is a popular impression, which is nearly correct, that it is a minified sin; that it is something irregular; but that it lacks in magnitude or intent something of that which goes to constitute a positive sin. In many instances faults are simply irregularities in execution or mere inattentions, negations, and almost always have this quality of being incidental—not purposed, nor the result of passion.

Many persons suppose that there is merit in faults. I think they do not discriminate very wisely. It is true that perfect people are the most disagreeable and intolerable people in the world—those so-called perfect people who, in order not to speak wrong, never speak at all, and in order not to do wrong, do nothing; those cold, precise, inelastic, hard, smooth, polished people, who are regarded as perfect—by themselves. It is true that you hunger and thirst for some roughness, and you wish such persons would break out somehow, and seem to be human. There is an impression, derived from excess in that direction, that faults are signs of a fertile nature—and if it be so, how fertile some natures are! They are thought to be like the roughness of a rock, that are a sign of strength; like the bark on a wholesome tree; like gnarls and knots on the oak; and people say that they would not want a man to have fewer faults, because there is a kind of robustness that they give.

Now, there may be certain sorts of faults of which this is true—faults of manner, or faults of irregularity; but this ought not to blind us to the moral character and to the effects of faults that are seated on conscience; that involve principle; that touch the question of benevolence and selfishness; that have in them certain relations to the waste or the supply of life; that run their roots even deeper, and touch the very seat of honor, and, one may say, of character and salvation.

One of the reasons why faults are so frequent and so little considered, must be, of course, a general imperfection of human nature. But the unconsciousness of men as to the details of their life while they are pursuing weighty matters, is also a reason of the faults of which men are the subjects. They are unconscious of them, largely, because there is very little friendship that takes upon itself the offices of true friendship. This is that which makes the household so valuable. The father and mother love their children so much that they can tell them their faults. There is a fidelity possible in the household without risking friendship or love.

There is a discipline of the school and in public affairs, as well as in the family. Where boys and young men are thrown together, the attrition, the intercomparison, the angry taunt, very soon makes men aware of those social faults which are apt to be disclosed in the social circle. But there is very little friendship aside from that of the family, which teaches a man, after he gets out of the school and out of the family, what his faults are. There stands in the Word of God the command, "Confess your faults one to another;" but for the most part men are selfish and inconsiderate of other's wel-

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fare, and one does not dare confess his faults to his neighbor. He says, "If I should, it would be putting a club in his hand, and by and by he would strike me with it. He would get angry with me, and the facts would come out. Or, if we should chance to come into competition in business, he would use them to my disadvantage. It is not safe." And this judgment is right. There are very few people to whom it is safe to trust. There are very few men whose judgment of your faults it would be safe to trust.

From these various infirmities of men, we grow up with clustering faults. Many of them reach to the very vital point of character. And no man speaks to us of them. Men are surprised if we accidentally learn them.

Among these faults are temper, anger, irritableness, peevishness, moroseness. More than any other feeling, temper depends upon the conditions of health. It is very largely the result of irregularity of the physical system, and is to be trained against by sanitary laws. Yet we are not to excuse ourselves on that ground; because the most inveterate men in this regard find that, when they are in the presence of those whose opinion they respect, and whose good will and praise they long for, they know how to restrain their temper. Vanity can restrain it. Self-interest can restrain it. And if by such lower instincts one can restrain his temper, why not by conscience?

It is supposed that these ebullitions of temper are petty, insignificant faults; but I can not consider the opening of a fountain of unhappiness in the family or in the social circle a petty matter. A single instance may be excused; but the habit of being peevish, sulky, and morose, is not a petty fault. It rises to the dignity of an ample and multitudinous sin. For nothing more destroys the happiness around about men than a bad temper. It is in the power of one person in a family to keep that family in smoke all day long.

A bad temper usually vents itself on the weak, and those that are not able to help themselves. Our peevishness generally works down to our inferiors and subordinates and dependents. It also is an infliction upon our friends; for we take it for granted that they love us well enough to bear it. We are often peevish and snappish toward them, when we would not be toward others. Toward superiors we are seldom liberal and free with our tempers; but toward those that are below us in life we do not hold it back. Many business men bottle up their temper during the day, and save it til they get home at night, and then it is a household confection, a luxury of the family!

This may seem like a small thing. It is small just as an aphis is small. In the summer aphides multiply by millions, and cover the leaves of plants, and weigh them down, and suck the life-juice out of them; and, though each one is small, a million of them put together are not small. And so it is with petty faults of temper. Each flash or spark may be small, but where one carries his temper like a smoking brand and swings it evermore, the whole career amounts to a good deal more than a fault.

Overworking is largely a cause of bad temper. Where persons are under such stimulus of ambition and competition and avarice, as our people are, they frequently work up their excitability to a morbid condition; and, though they are said to have bad dispositions, their habits are worse than their dispositions. They are overworked, and therefore they bring their brain-system unto an abnormal condition.

Over-eating, derangement of the digestive function, is also a large occasion of bad temper. There is a current idea that after dinner a man should be approached, because that is the time most favorable to good nature. This may be true when men are half drunk after dinner; but ordinarily undue eating brings on a train of symptoms that result in any thing but amiableness and complacency. And that which is true of eating is also true of stimulation. Drinking, not to intoxication, but to excitability, is a frequent and most powerful cause of irritableness.

I may also mention faults of the tongue. One of these is extravagance of speech. There is a kind of extravagance which is in the nature of wit; and there is another kind which has neither wit nor wisdom in it. The habit of superlatives is a habit which is contrary to good taste and good judgment. The habit of extravagant statement can not be indulged in continuously and long without materially marring the moral sense in its relations to speech.

The fault of profanity may likewise be mentioned. Many people think that profanity is only an interjection, an explosion of strong feeling, and that no harm is done by it, while it often gives relief. It may be true that a man is benefited by some expression of strong feelings; but it does not require that he should take the name of God, or any sacred name, in vain. It is bad for his taste. It is bad for his kindness and benevolence; because it wounds the feelings of those around about him. It is bad for his religious spirit. It is bad every way.

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It is the most inexcusable of faults. It usually begins in vanity, and is continued as a mere matter of habit or temper. Small boys swear because larger boys swear; and larger boys swear because men swear. And there is no comfort, nor profit, nor honor, nor good, in any way whatever, in it. It is sheer *badness*.

I may mention, also, the faults of untruth. I am not referring, now, to wanton, deliberate, malicious lies; but rather to what may be called *speaking the truth to a hair-breadth;* speaking the truth so as to leave the impression of untruth; holding one's self technically right, and yet being in effect wrong.

The general rule in this matter is, that the tongue should be usd, not merely to avoid untruth, but to glorify truth, and promote virtue, honor, love, and duty. The tongue should be like an instrument of music. Its positive utterances should need no defense and no excuse.

Let me mention, too, faults in the carriage of the mind toward others. There are faults of suspicion and criticism. There is nothing more frequent than for men to criticise their fellow men on the dark side. We see, remember, report, digest, perpetually, not that which is for the honor and well-being of the person discussed, but that which can be made a matter of amusement for the moment, or can be made to serve our interests.

The law of kindness on this subject is, *Never speak any thing that is injurious of another, unless you have some distinct end of good in view.*

Faults in honorable fidelity, to which the young of our nation are peculiarly liable, should not be omitted from this category. Almost every man, at one period or another of his life, is obliged to act in subordinate relations. And in such relations men are apt to study their own interests, and not the interests of those whom they serve. There is a want of zeal and fervor of fidelity. There is the low and selfish feeling that they are relations which a man sustains for the purpose of taking care of himself. The feeling of many a young man is, "My employer must look out for his own interests, and I will look out for mine." He substitutes for generous honor a feeling of personal selfishness.

Carelessness of other's affairs is a variation of the same thing—especially the affairs of persons that are great or rich. How many persons feel that, while they would not commit an offense against property, they do not sin when they are merely heedless of the business in their charge! But there are circumstances in which heedlessness amounts to crime. This is a fault whose roots, if they are not cut, grow deeper and deeper, till by and by carelessness becomes vice.

More consciously in fault are they who serve prefunctorily, with *eye-service*, as *men-pleasers*, and not as truthful, honorable, conscientious men. Very few men can be found who will work as well for you when you are gone as when you are present. There are very few men who do not put a little more fidelity, alacrity, precision, and promptitude into their doings when the employer's eye is upon them.

There are faults of business morality which require a passing notice. There is an impression that we have a right to defend ourselves by doing wrong to those who do wrong to us, and that we have a right to be judges in our own cases. It is very common, in society, for men to take the law into their own hands, and plead wrongs that they have suffered, in justification of wrongs that they have done. They are determined to make it even. They mean to be avenged or indemnified. And usually this is in cases that are not adjudicated; and cases in which men hear but one side, and that their own; in cases in which they constitute themselves their own judges, and execute justice on their own responsibility.

Now, no man has a right to fight fire with fire. No man has a right to defend his own reputation by blackening the reputation of the man who has aspersed him. No man has a right, because he has been cheated, to cheat when he gets a chance. No man has a right because another man has put a bad bargain on him, to put a bad bargain on another man. The law of obligation is always the same.

Another fault of morals in business is taking advantage of mistakes. For example, change is being made for you, and the man gives you back more than you gave him, as well as the article you have taken. You pocket the money and say, "I am not bound to do business for him and myself too. I am not responsible for his blunders." Is that honest? And yet are there not many that do it? I know men who I suppose you could not bribe to join a band of counterfeiters, and produce and circulate bogus money; but who, if they were riding down town at night, and had a bad bill put on them, would say, "I can not afford to have it lie on my hands," and shove it along, having no conscience in the matter. How many men are there that, when they get hold of a bad bill, do not have a sort of impulse to get rid of it, without stopping to consider what the moral character of such an act is! Because you have a bad bill put on you is no reason why you should

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put it on somebody else. And though a man does not make bad bills, if he lets them go out of his hands deliberately, he is a counterfeiter in the sight of God. This is a question of manhood. Back of all money is truth, fidelity, morality, honor, and trustworthiness; and these ought to be matters above dollars and cents to you. If you take in a counterfeit bill, do not wait till the devil tempts you twice. Burn it at once.

I might also mention wasteful habits, such as indulgences in food and drink and stimulants; but enough instances of faults have been given to awaken your thoughtfulness, and enable you to make applications of the general subject to special cases which I have not touched upon.

Determination of Life.

BY F. B. PERKINS.

I HAD an acquaintance who used to say that she was going to live three hundred years. She was a lady of great natural abilities and much culture; she used to say this in a very curious tone of half jest, half earnest.

"I know I can," she said; "it only needs the will and a right life; and I will!"

Whether she really will I do not know; I shall not undertake to wait and see, like the old woman who bought a crow to see if it would live a century.

A good many physiologists, however, have earnestly taught, and with a good deal of reason, too, that an average human being ought to live a hundred years. I suppose the average human machine is really capable of running a century. It does not now run much, if any, over a third of that time.

We can really do a good deal to lengthen our lives. But we can do infinitely more to widen them. A life fifty long and fifty broad amounts to twenty-five hundred; whereas, if it is a hundred long and only one broad, it amounts only to one hundred. It is twice as long as the other, but only one twenty-fifth as large. Besides, to lengthen life, is absolutely within limits of possibility; we possibly can not do it at all; we certainly can not do it beyond some number of years, but we can all widen our lives, and the limit is only that of effort. We can work, we can read, we can study, we can talk, we can think, we can do right and avoid wrong, we can help.

One of the strongest and most consoling facts about enlarging our life is, that the higher the grade of improvement sought, the more utterly is it within our own control. A disease born in me may kill me, with absolute certainty, at thirty-five; there goes my century, and I can't help it. The circumstances of myself and family may rivet me as within eleven-inch turret iron to the steady daily drudging of some mere hard work. There goes all my elegance and leisure and learning, and a good deal of my thinking. But neither God nor man can prevent me from gaining self-control, sweet-heartedness, thoughtfulness, and helpfulness for others; from steadily rising, and rising in the moral and spiritual life.

These paragraphs are not directly, but they are nearly, in point, with reference to what I set out to say; and that is, about Determination of Life.

I suppose I am talking to grown-up folks mostly, and they are most likely to answer:

"I'm thirty—forty—fifty—sixty. My life was determined long ago—only fag ends of it left. You have nothing for me."

Yes, I have—for a good many of you. Suppose it is too late for yourselves? It is not too late—with many of you—for those that I had chiefly in my mind. As was just said, the noblest is always in our own power. It is infinitely higher to help others than ourselves. And lastly—it is this that I was coming to—it is a truly American idea—I should say it is a human idea—one of the noblest and sweetest things in all humanity—

We must do better for the children.

More in this country than anywhere else is it true, that parents can do better for their children than was done for themselves. Nothing can show the truth of this so well as a comparison between ourselves and England on this point. That country is probably the nearest in the world to the United States in average hopefulness of condition, including all things together—wealth, social condition, intelligence, morality, and religion. Yet now compare the average condition of the two countries—that

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is, of the poor and of those who work for a living.

A man begins life with nothing, except what the Irishman called "his four bones." In the United States it is the rule for him to gain a piece of land, live in a home of his own with a wife and children, to become a voter and probably a public officer, to give his children a better education than he had, to start them in life with more money, more learning, more mind, more chances for prosperity of every kind, than he had himself.

But in England the chances are many that a poor man's children can not rise above his own level. He can not buy a piece of land. The proprietors will not sell it to him, and if they would, there are no public land records there, and absolutely the poor man can not afford the cost of searching a title and getting a conveyance made out to him, let alone the cost of the land itself. So he can not own a piece of land, nor have a home of his own. He can have a wife and children, but wages are so low that he can barely pay his own way from his own earnings and those of his wife and children together, and the children can not even go to school. And if they could, there are no schools; at least none in our American sense of the term, free and equal to poor and rich alike. Nor can he vote. At least there is a property qualification which acts as a substantial prohibition; and as a matter of fact the chances of being a voter in England is exactly equal to that of going to the poorhouse. The number of voters in England is just about that of the paupers. There are about a million of each. And without a vote for himself or schooling for his children, he can neither rise in consideration himself, nor put his children in the way of doing so after him.

This superiority in the children's chances, is doubtless one of the strongest of the many cords that are drawing all Europe over here.

Now, the children's lives are at first, certainly beyond their own power. The little folks don't know what they are nor what they want; they are entirely passive to the shaping hands of their elders. While it is true that we can control our own lives to a certain extent, it is equally true that nothing can free us from the results of our childhood and youth. We never escape from the influence of that part of our lives which we could not control. Childhood is to a great extent the directing fate of life. Parents are the absolute monarchs of childhood. And thus parents direct the fate of life. Such reasonings show how right I am in beginning before self-control is possible, when I discuss self-control. It is only preparing the provisions and musket and ammunition for the enlisted man; and drilling him in the marching step and the manual of arms before the army sets out. Twenty-nine inches, and hard bread, was the basis of each campaign of victory for Napoleon. That is the length of the regulation step. So many steps a minute, so many hours a day, carries the armies to their converging at a time and on a point that only the great commander knows in his own secret soul. Having the provisions and marching on time, his combinations exploded the unsuspecting foe into the most utter destruction. Give your young soldier his provisions and ammunition and weapon and squad-drill while you can. The campaign of life will draw heavily enough upon all the preparations you can give him. And unprepared, he marches only to the hospital.

As I said in a previous paper "people differ." So do children. And the principal problem for the parent who educates his children is, to prepare them to do their best thing in the best way.

The truth is, that children compare with adults as wax statues to cast-iron ones. You can shape the former almost as you choose within the limits imposed by the weakness of the material and its danger of injury from heat or cold, blows or carelessness. The cast-iron figure is comparatively impregnable to evil, but it is comparatively inaccessible for good, too.

Life is determinable far more for our children than for ourselves. It is far more for their children than for themselves, that thoughtful and wise and kindly parents are anxious and diligent.

I had it in mind to suggest something in detail in determining the children's lives; but I can not do it at the tail of a paper. I shall try to hereafter.

OBSERVATIONS appear to show that the rule that the quantity of oxygen taken in by respiration is, approximately, equal to that given out by expiration, only holds good for the total result of twenty-four hours respiration. Much more oxygen appears to be given out during the daytime than is absorbed; while at night, much more oxygen is absorbed than is excreted as carbonic acid during the same period. And it is very probable that the deficiency of oxygen toward the end of the waking hours, is one cause of the sense of fatigue at that time.

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Growth and Development.—V.

[BY ARCHIBALD MACLAREN, OF THE OXFORD GYMNASIUM.

ALMOST important principle in Exercise, and one which should ever be borne in mind, is, that it should be regulated by individual fitness, for the exercise that scarcely amounts to exertion in one person will be injurious and dangerous to another.* And not only is this inequality observable among different individuals, but, as we have already seen, the same individual may have parts of his body possessing special power or presenting special weakness. A man may have limbs capable of transporting him at the rate of four miles an hour throughout the day, and for many days in succession, but with heart or lungs all unequal to the effort. Or he may have an organization so frail, and a temperament so susceptible to stimulation or excitement, that the one is an abiding danger to the other.

A DUTY.

It is every man's duty, therefore (nor is it a very hard one), to endeavor to ascertain the nature and extent of his physical resources, for his guidance at all times, but especially when contemplating any special and exceptional exertion. And it is from the non-observance of this principle that we hear so frequently of accidents and cases of serious indisposition after unwonted physical effort. If any one whose habits of life have been of a comparatively sedentary nature, suddenly, and without any preliminary preparation, resolves to change these habits for active ones, he will unquestionably derive harm from such an attempt, simply because, in doing so, he is infringing those principles which alone can make it useful. Thus, if he attempts an exercise which is suited to one whose frame, from regular and continuous practice, is capable of performing it without fatigue, if he makes a demand upon his heart and lungs that is beyond their power to sustain, because he sees another man make the same requisition upon *his* well-trained organs of respiration and circulation; or if he selects a certain time of the day for exercise because it best suits his business arrangements, although his brain may be weary, his mental energies exhausted, and his bodily energies depressed, how can aught but disappointment be the result? The stomach when enfeebled by fasting can not all at once digest a copious meal; the lungs weakened by illness and in-door confinement can not breathe all at once the external air; the mind depressed by grief can not all at once be trusted with the full tale of glad tidings. Yet a man does not hesitate to change the habits of every organ of his body as hastily as he would change an ordinary garment, and then to express surprise and disappointment if benefit be not the result of the change.

INDIVIDUAL FITNESS.

The infringement of this principle, that "Exercise should be regulated by individual fitness, that it should be approached gradually and increased only with increasing strength," has been the cause of much perplexity and suffering. Scarcely a summer passes without our attention being drawn to some victim of its transgression—some one who has escaped suddenly from his desk or study, and, without preparation, or gradation, or precaution of any kind or degree, has betaken himself to mountain-climbing, shooting, boating, or some other exciting pursuit, to break down in the effort, or to struggle through it and *sink* down for many a month and day after it, his powers overtasked, his energies exhausted. Now for the brain-tired, city-worn, business-weary man, these are the pursuits which he would do best to follow, and these are the scenes among which he would do most wisely to mingle, did he do so in accordance with the dictates of reason, and in obedience to the laws by which health and strength are maintained.

CHANGE OF AIR.

This is, however, the abuse, not the use of a valuable custom which is yearly extending, and extending, too, among the very men who need it most and to whom it will yield the most immediate and lasting benefit; a custom which, it adopted judiciously, will give a healthful fillip to the flagging energies of both mind and body. We call it "change of air," and the term is just as good as any other, but it very imperfectly

*A painful instance of this nature was brought before me some time ago. A man boasted to me that he and his son—the father a strong, hardy man, the son a lanky and loose grown lad of thirteen years—had just walked from London to Oxford in one day—a distance of nearly sixty miles. Before the year was out they made another journey together—a short one this time—the son carried before, the father, broken-hearted, following. The boy had never recovered from the exhaustion of that day.

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expresses the extent of the change, for it is change of every thing—every thing we see or hear, taste, touch, or look at, person, place, or thing—change of every thing we undertake, undergo, and (probably) understand.

But even when these holiday-breaks are made most sensibly, they must not be regarded as the all-in-all of the exercise to be taken. A man can not in a week or two eat sufficient food to supply the demands of appetite for a whole year, neither can he take sufficient exercise to keep his body in health throughout the four seasons in a summer's ramble. These mountain excursions or sea-side sojourns must be *in addition* to, and involving no curtailment of the daily walk to or from business, the daily ride to or from somewhere, or the daily employment with or at something; a something which will in its doing quicken the pulse and augment the breathing, and, if possible, bring the perspiration to the forehead.

OTHER HEALTH AGENTS.

Exercise may be favorably connected with other agents of health, such as bathing, in the practice of swimming; and with fresh air in country ride or ramble. To men living in large cities—the men of course whose need of exercise is the greatest—it seems but a tantalization to recommend a country ramble; but there are a great many men pining for want of proper exercise who do not live in large cities, and there are a great many others who spend but a portion of their time there, with whom an occasional break along the green lanes in the saddle, or across the meadows on foot, would be a matter of easy accomplishment. Men do not know what they possess in these cross-country byways, and in the power of traversing them on foot—the pleasure, the profit of walking—the first exercise enjoyed in life, the last that is freely taken. But a walk, to be a real enjoyable exercise, must be a country walk, a country ramble, in fact—the antithesis to the "constitutional" of a measured mile of way on the dusty road—going where fancy prompts and inclination leads, forgetting alike past mental labor and present physical effort in the successively recurring objects of interest that will rise at every turn of the path. The country walk is an exercise entirely our own—purely English—originating doubtless in many favorably concurring circumstances, mental and material; such as love of country-life and country-scenes, of natural objects in their natural places and in their natural aspects, and also from that blending of the thoughtful with the practical elements of character which is peculiar to our own race; and doubtless also to the facilities presented for indulging in by-path pedestrian peregrinations. I have wandered on foot through many a land, but have never seen these dear old stile-paths in any but our own, nor have I ever met abroad the man who cared for them, or could comprehend any pleasure in this source and this scene of exercise. The country walk is good for both mind and body, clearing the brain, and quickening the pulse by the same means. If a man wanted an aid to thought, a help to enable him to look all round a point difficult of access, and at the same time find the antidote to close mental application, I would say, "Vault the first stile in the first meadow, and let your mind track out the windings of the way of your subject of thought, even as your undirected feet might track out the windings of the unsurveyed path on the greensward—through meadow and field, through coppice or common, by river-side or plantation-row—the villager's right of way, secured to him by right of immemorial usage." For the young and for the middle-aged, for the one as a change from his more energetic and concentrated physical exertions, for the other as a means of bodily exercise and mental beguilement, I know no better recreation.

RESULTS OF IGNORING INSTINCT.

I have spoken of the irregular and indiscreet yieldings to the natural instinct for physical exertion which is to be found in almost every nature—subdued, it may be, but not dead—and waking up and asserting their claims on every favorable occasion; but the evils which come from these are not so great or so startling in their results, nor do they seem so blamable a transgression as when these instinctive cravings are blindly and persistently ignored. How many, how marked, and how painful are the proofs of this, daily recurring. How many gifted men have broken down and are daily breaking down, with their life's work only half done, when they might, humanly speaking, have completed it with ease and success had they not carried it on in utter disregard of the fact that to ensure health of mind they must possess health of body, and at the same time set at naught the laws which the Creator of each has made the conditions of its healthful existence.

WHEN Patrick first tried peaches, he said he liked the flavor, but the seeds lay hard on his stomach.

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The Cold Water-Cure.

THE doctors gave him up, and he
Gave up their medicines and things,
And sought another remedy—
Where *sulphur* is dissolved in springs.
Now fusil oil was sending him
Where patients take the sulphur pure,
So, though he was too weak to swim,
He "struck out" for the Water-cure.

He looked back to the Deluge, when
The water killed more than it cured,
And thought the flavor given then,
By sinners could not be endured.
"Water, when used to wash the skin,
A healthy mortal might endure,
But not a drop should get within—
His mouth, while at the Water-cure."

The bath-men seized him by the coat,
And there and then they stripped him bare;
He crammed a towel in his throat,
For fear the water might get there!
While in the bath he tried to cough,
And thought that he was going, sure,
Where the pure Croton is cut off,
And that is not a Water-cure!

There he was scrubbed from head to feet.
Meantime the cork of cloth flew out,
And while his lips were slow to meet,
And he was plunged and dipped about,
The water cold, unused to such a throat,
Ran slowly down as through a sewer;
He cried, "My kingdom for a boat—
To take me from the Water-cure!"

But could you see that man to-day,
You would, indeed, be proud of him;
I can not tell how much he'd weigh—
His motto now is, "Sink or swim."
When first invited to the Springs,
His body seemed a bony skewer,
And now the discus which he flings,
Shows what comes of the Water-cure.

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Like Naaman in the water, he
Was dipped until he lost the skin
Which hinders, like the leprosy,
The health which seeks to get within.
And now he likes no other drink
So well as water cold and pure.
It would be hard to find, I think,
A better man at any Cure. G. W. B.

Amusement Controversy.

BY WASHINGTON GLADDEN.

THIS amusement question is getting to be one of the leading questions. I was about to say, that the views of the people concerning the subject are undergoing a revolution; but perhaps it would be safer to affirm that there has been an insurrection against the prevailing doctrine. When the insurgents shall be allowed belligerent rights, it will be proper to call it a revolution. At present there seems to be a disposition in certain quarters to have them all seized and strangled, without benefit of clergy.

A dispute so general and so earnest as this has come to be, is the best evidence that something is wrong; and it is rather difficult to believe that all the wrong is to be charged upon those who are fond of amusement. Both sides in a quarrel are commonly in fault.

The tendency to dissipation and frivolity is always present, in all forms of society. When our fathers and mothers were boys and girls, forty or fifty years ago, there was less danger from this source than there is to-day; but there was danger then. "Young folks always will be young folks," the matrons say; and the maidens may safely infer from that saying that young folks always *were* young folks. The love of play is the strongest of the passions which bear rule over the young, and there is always reason to fear that it will lead them into excess; always need that those who have the care of them should guard them against a multitude of accompanying evils. But this is a matter which must be treated with the utmost caution.

Any lack of precision in your philosophy will be fatal. If there is a loophole in your logic, your boys will go through it in a hurry. If you put that down for a first truth which is only a flimsy fabric of prejudice and fanaticism, your girls, with their sharp insight, will soon see through it. Perhaps they will have so much respect for you, or so much reverence for the ecclesiastical authority which lays down the law to them, that they will never argue the question; but if there is the smallest bit of sophistry in your teachings they know it, you may depend. It is not well either for you or for them that you should thus embroil them in a secret strife between reason and authority. It is an irrepressible conflict, and one in which authority always goes to the wall at last. When they cast off your laws and repudiate your doctrines in this matter, your influence over them in other matters will be greatly impaired.

It is unfortunate, too, if an impression is allowed to obtain among the young that their elders have no sympathy with them in their love of play. If the teachers of morality take their places upon some awful eminence of superior wisdom, and show that they have but little regard for the natural tastes and preferences of those whom they are trying to instruct, it is not likely that their words will have much weight.

That there has been a want of sympathy between the old and the young, and that there has also been no small amount of illogical and preposterous teaching about the subject of amusement seems to me very plain. The evils connected with amusement are greater now than ever before in our land, and no small portion of their increase is to be accounted for by the unwise measures that have been taken to prevent them. Restraint was necessary, but the restraints imposed have been so unreasonable and injudicious that there has been a revolt.

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and they have given way altogether. The whole subject needs to be thoroughly revised. If we would rescue our young men and women from the strong currents of frivolity, we must get a foothold somewhere upon solid ground. Those who question the commonly-received teachings about amusement are loudly accused of making concessions to the frivolous spirit of the time, or worse, of conspiring to break down the barriers and let in the floods of dissipation and vice. Some of them may be governed by such unworthy motives; but there are others who see, or think they see that the barriers are already well-nigh broken down, that the power of the churches over the young in this matter is nearly lost; and their solicitude for the welfare of the young people about them, and their desire to save these young people from the mischiefs of social dissipation have led them to inquire whether the received doctrine may not be unsafe and unsound.

The ethical code respecting amusement which has been most widely recognized and inculcated is the joint work of various ecclesiastical bodies. Presbyterians, Orthodox Congregationalists, Baptists, Methodists, Moravians, and others, in their representative assemblies, have gravely discussed the subject, laying down the law to the churches. Armed with these thunderbolts, the pulpits and the tract presses have resounded with denunciations until, in many quarters, public opinion has become very nearly unanimous in disallowing certain popular amusements. It might be doubted beforehand whether such assemblies as these are competent to settle the amusement question. The worthy men who composed them are to be credited, not only with good intentions, but with great learning and high character; but most of them have long ago put away childish things, and some have even forgotten that they ever had any childish things to put away. The training through which they have passed, and the course of life which they have felt it their duty to follow while in the ministry, have not been such as to give them any practical knowledge of the subject of amusements. The majority of them suppose that the practice of almost every kind of pastime is inconsistent with their profession, and it is natural enough that what they themselves abjure they should be slow to allow to others.

I confess that the picture of these venerable bishops and doctors and elders, with their silvery hair and their snowy neckcloths, sitting in solemn convocation to decide what pastimes are good for young folks and what are evil, wears to my eye a shade of comicality. No one can doubt that these excellent men are thoroughly qualified to discuss the philosophical principles underlying the whole subject of amusement; to show what uses sport and recreation are designed to subserve in the divine economy, and what general rules should therefore govern us in our practice of them. But this, which they are perfectly competent to do, and which is the very thing that most of all needs doing, is precisely the thing which they have left undone: and the thing for which they had no qualifications whatever, namely, the decision with regard to specific amusements, is the only thing they have tried to do. Men who never in their lives saw a figure danced, and who do not know spades from clubs, have declaimed from their pulpits and have voted in the assemblies against cards and dancing. Here is one of the deliverances of these religious bodies:

"*Resolved*, That the fashionable amusement of promiscuous dancing is so entirely unscriptural, and eminently and exclusively that of the world which lieth in wickedness, and so wholly inconsistent with the spirit of Christ, and with that propriety of Christian deportment and that purity of heart which his followers are bound to maintain, as to render it not only improper and injurious for professing Christians either to partake in it or to qualify their children for it by teaching them the art, but also to call for the faithful and judicious exercise of discipline on the part of church sessions, when any of the members of the churches have been guilty."

Mr. Vincent tells of "an amiable and most excellent clergyman who happened to be present one evening when some young ladies went through a quadrille. He looked on with great apparent pleasure. The next morning he was rallied by some of his townsmen on having countenanced dancing by his presence; when he roundly denied the charge, and asserted that no dancing had taken place, but only, as he expressed it, *a most beautiful exercise*." Very likely this clergyman voted for that resolution.

Such indiscriminate and random denunciations by the clergy of things concerning which they had no knowledge have offended not only the lovers of amusement, but even the more considerate of the clergy themselves. Witness these words of Dr. James W. Alexander, a minister of the most straitest sect of orthodox Christians, and one to whom no suspicion of catering to frivolity could possibly attach:

"I am half afraid I am under some hallucination or morbid judgment, but for several years I have sickened at the common way of outcry against specific amusements; sermons and tracts

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anent them, etc.; in one view all the meetings of our unconverted hearers are frivolous, but are they worst when they are merriest? This is dangerous ground, and I suspect myself, but my error is corrigible, and it surely does not grow out of any disposition to practice on the light fantastic toe. I believe, however, that sourness, moroseness, censoriousness, malice, lust, envy, and two or three other things may eat as doth a canker in people who never danced."

In general, I think, three complaints may fairly be made against the teaching of the religious bodies on this subject.

In the first place, it has been wholly a ministration of condemnation. Many things have been disallowed, nothing has been approved. The churches have hardly ventured into this field, except to forbid and denounce. The *impression* has thus been given that all sport is sinful. It is true that the hard words of the doctors have all been said about three or four specific amusements, but there has been an ominous silence about all the rest which has intimated, more or less strongly, that in their judgment the rest are not much better. A grave suspicion lurks in the minds of many of the young people, that their religious guides and censors esteem all their frolics to be the ebullitions of a depraved nature. Is it too much to say that some such notion as this has been till recently quite generally entertained among Christian people? There has been no such article of faith in any of their confessions, but it has been the tacit assumption of most of those who were regarded as the leaders of religious opinion. A fondness for sport has been regarded as somewhat inconsistent with deep and thorough piety, and it was thought by many that those Christians who engaged only in the more orthodox pastimes in the most moderate way would be rather better Christians if they refrained from them altogether, and employed the time devoted to them in secluded meditation upon heavenly things. For what has been done toward the destruction of this dreary relic of Paganism we are indebted to Mr. Beecher more than to any body else on earth. His persistent good nature and his ready wit have scared away many of these goblins of darkness; and his clear vision has discovered much of the truth concerning the uses of sport and laughter in ministering to the health of the body and the soul.

The second cause of dissatisfaction with the church teachings upon this subject lies in their utter disproportion. The evils growing out of amusement are serious and worthy of reprobation, but they are not the only nor the greatest evils discoverable in Christian society. As Dr. Alexander suggests in the extract above quoted, there are habits and practices quite as prevalent and quite as fatal to spiritual growth as those with which the votaries of amusement are chargeable. And yet the stress of ecclesiastical denunciation has been laid upon the latter class of evils, while very little has been said about the former. The effect of this unfair discrimination has been most injurious. Many young persons who have said nothing have been greatly irritated by it. Those of us who can remember the impression which the anti-amusement teaching of our younger days used to make upon us know that, in spite of the respect with which we always regarded our spiritual teachers and our elders in the churches, it was sometimes borne in upon our minds that the mischiefs of Christian society did not all grow out of amusement; that there were faults not less serious than ours, and not less destructive of true piety, of which these our good mentors were by no means clear; that by ambition, ostentation, avarice, envy, and evil speaking, at least as many people were kept out of the kingdom of heaven as by "fashionable amusements," and that it was hardly fair for them to expend so much force in warring against the things which we enjoyed, and which they had no mind to, while the things they were inclined to were left unassailed. There lies before me as I write a full newspaper column of "resolutions," passed by different religious bodies against dancing and card-playing. Can any one show an equal number of bold words uttered by these religious bodies concerning traffic and its frightful immoralities, or concerning gossip and its deceitful asperities? Will any sane man deny that these evils last mentioned as well deserve rebuke as those others against which the pulpits have been thundering for the past twenty-five years? And if these things are so, do they not furnish one good reason why the prevalent teaching has failed, and why it needs to be reconsidered?

The third ground of complaint is in the fact that the denunciations and warnings of the ecclesiastical authorities have all been pointed at specific forms of amusement, rather than at the abuses connected with all amusement. Cards and dancing have been the marks at which most of this artillery has been aimed. Other amusements have sometimes shared in the condemnation, but these have been the chief objects of assault. Around these two pastimes the heat

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of the controversy has raged. Multitudes of sermons and essays and tracts and newspaper articles have been written and published to prove that they are sinful and injurious. The great effort has been to keep young men and women from dancing and from playing cards. No one will deny that there have been many things to condemn in connection with these amusements. Serious abuses have crept into them; and our learned and devout fathers and brethren, looking on where they were practiced, or hearing from afar the sound of their goings, have seen and heard many things at which they had a right to be scandalized. But instead of condemning the mischiefs connected with these amusements, the leaders of religious opinion have expended all their force in creating a sentiment against the amusements themselves. So far as these specific pastimes have done harm, they have been effects, not causes—instruments, not agents. Certain evils, inseparable from human nature, have fastened upon them, and have wrought mischief through them. But to ascribe to the pastimes themselves these injurious results, is like blaming the windmill for the damage done by the gale. The social evils referred to are always insidiously at work, and there is need that they should be exposed and denounced; but the effect of the constant preaching about two or three particular amusements has not been to fix attention upon these evils, but to withdraw attention from them; and while the ministers have been arguing against dancing and card-playing, the abuses which had fastened upon them have attached themselves to other forms of amusement, and have stalked abroad unchallenged. Dancing, for example, is abused in dissipation. It is quite too common to prolong the social assemblies in which it is practiced far into the night. The charge has also been frequently made that it suggests impurity, and of certain forms of dancing this is probably true. These are the worst evils connected with this pastime. But when dancing has been entirely prohibited these evils have flourished without rebuke. In communities where a parlor quadrille would have been counted an abomination, the young people have been allowed, without protest, to waste the night in social dissipation—in the practice, too, of pastimes which were far more likely to suggest impurity than even the worst forms of dancing. The worst abuse of card-playing has been its perversion to the purposes of gambling; but while much has been said and done to make card-playing odious, gambling under other forms has been constantly increasing. The worst and most popular form of gambling now practiced is that of which the lottery is the genus, and the raffle and the "gift-enterprise" are common species. The amount of money yearly squandered upon these promising schemes is tenfold greater than that staked upon the issue of games with cards. But very little effort has been made by the churches to create a strong public sentiment against this prevalent vice. Its steady and alarming increase has provoked from the religious assemblies hardly the faintest remonstrance. I am sorry to say that this is not the worst of it. The churches are not in a position where they can safely denounce lottery gambling. Not only have they failed to bear witness against it, but they have even done what they could to make it respectable by means of the raffles of various sorts which have been so common in connection with religious fairs. All this has been done in brazen defiance of the statutes which make such enterprises punishable offenses, and in utter disregard of consistency. Churches that would discipline a young man for playing a quiet rubber of whist at home with his mother and sisters would very gladly sell the same young man a ticket in some religious raffle, and thus open wide the gates to the worst kind of gambling. When such facts as these are common, is any one surprised that the prevalent teaching concerning popular amusements has come to be rigidly questioned? The attempt to patch the old garment of Jewish asceticism with the new cloth of Christianity has resulted disastrously. We must find a method of treatment which shall be at once logical and less dangerous.

The truth must first be fairly recognized and clearly taught, that recreation—by which is meant not only the exercise of the body, but also the diversion of the mind—is a constant want of human nature, for which it is our duty to provide. Just in proportion as our amusements supply this want are they right and legitimate. They are not to be sought as ends in themselves; they are only to be used as a means of physical and spiritual health and growth. Not to have a good time while we live, but to live well—that is to be the end of living. Some degree of mirth and laughter, some indulgence in play and pastime are necessary to enable us to live well. We can not work as we ought to work, we can not worship as we ought to worship, if we do not sometimes play. Just as much play as will fit us to work most efficiently, and to worship most acceptably we ought to have. Less than this is not enough, more is too much.

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To many persons these will seem to be commonplaces; to many others they will be daring and impious utterances. There are thousands of Christians in our American churches who are often sorely troubled in spirit because of the notion yet lingering in their minds that there is some degree of inconsistency between pastime and piety. They would not greatly enjoy a prayer-meeting to which they had come from a merry game of croquet. To them it would seem to be a most violent and unnatural transition. They would feel that the posture of penitence and confession was the only one proper for them under the circumstances. Such a feeling is evidence of a misguided understanding and a perverted conscience. These Christians must be made to believe that croquet, in its right place and in its due proportion, is not only innocent, but holy and acceptable to God; that it might even be the best possible preparation for the prayer-meeting, by withdrawing their thoughts from the distracting cares of worldliness, and by filling them with a cheerful and thankful spirit. The fact that many of those who read these words will be shocked by them only illustrates the point under discussion, and clearly shows the need that such words should be written.

There is reason to hope that a better philosophy will soon find place. As I write this paragraph a religious newspaper is laid before me, containing a report of the proceedings of a large and influential Christian assembly, before which an essay on amusements was read by a distinguished clergyman, "maintaining in an elaborate and able argument the following theses: that play is, in its place, as legitimate as work; that it is liable, through human imperfection, to be perverted in form and degree, like all other modes of human action; that amusements, equally with other parts of our conduct, must be so regulated as to illustrate Christian principle, and make a distinction between the Church and the world; that they must be dealt with, however, after the methods of offensive rather than of defensive warfare, and according to gospel liberty rather than legal asceticism; that the Church is responsible for a complete Christian civilization, and therefore bound to make positive provision for proper amusement; and that the transition character of the times and the involved nature of the problem require great wisdom and charity." These are wise and manly words. They are not spoken too soon; they can not be too often repeated.

But while we recognize the truth that recreation is necessary, and that amusement is right, so far as it answers the ends of recreation, we must bear faithful witness against the fatiguing excesses and the demoralizing revelries which are constantly creeping into all forms of amusement. Heretofore we have been so anxious to make out a case against particular amusements, that we have overlooked all abuses not connected with them. Henceforth we must rebuke the evil wherever we find it. The habits of dissipation into which many of our young people are falling can not be too earnestly condemned. They who waste the hours of labor or the hours of sleep in sport must be made to feel the sacredness of the laws of life which they are violating. It will not do, however, to ignore the fact that other ruling passions besides the passion for amusement are making mischief in society; that the love of gain and the love of show and the love of place, equally with the love of sport, are blunting men's consciences and hardening their hearts. There must be no partiality in our treatment of social evils. There must be no blinking the fact that every age has its besetting sins. If we can not give to each class of sinners a portion in due season, we had better be sparing in our condemnation.

But we must have something better than sound doctrine; we must have thorough and consistent practice. The time for speculation has passed; the time for action has come. Good men and women, who see the perils with which this department of life is environed, must enter into it, and rule it with a better wisdom. Parents must make liberal provision for the amusement of their children at home, and must show them how to use these things without abusing them. An ounce of example weighs more than a pound of precept. The separation of the old from the young in their sports has been most unfortunate. It is better that they should share them together. Persons of mature years need the diversion quite as much as their juniors. And even if they did not need it, they must remember that they can not guard the sports against abuse without participating in them. In no other way can they preserve their influence with the young, and save them from the snares which await their feet. The good Book tells us of a coming time when the hearts of the fathers shall be turned to their children, and the hearts of the children to their fathers. May the glad day hasten!

Especially must the churches take hold of the principle and the practice of this matter with no timorous touch, but with the assured grasp of a hearty conviction. As the learned essayist has said, in the words quoted above: "The Church

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is responsible for a complete Christian civilization, and therefore bound to make positive provision for proper amusement." The religion that neglects to provide for the cultivation of one large department of the human nature, and stands aloof, content to cast suspicion and condemnation upon every attempt to secure such cultivation, is a very stupid anachronism.

So far as the particular amusements are concerned, it would be vastly better if we could be silent concerning them. What we want is not so much discussion of specific cases as general principles which shall apply to all cases. But there has been so much casuistry on the other side, that it is sometimes necessary to descend to particulars. A vast amount of logical rubbish has accumulated about this question; and we can not make much headway without clearing it away. There is the Scripture argument against dancing, for instance; it is the merest sophistry; it rests wholly on one or two assumptions, which no one but a pirate on the high seas of controversy would ever think of making; and yet some heads are troubled by it, and we must confer upon it the dignity of decent interment. An argument against several of the popular amusements of the day is also drawn from the abuses connected with them. In reply to this, it is necessary but not difficult to show that the argument proves too much. Not only every pastime, but every employment is liable to abuse; and as a matter of fact, some of those sports which are universally allowed are worse abused than those which are generally discountenanced. There are more evils connected with baseball and skating and dominoes, than with billiards and dancing and cards.

Another familiar argument is founded upon the alleged fascination of some of these pastimes. We are asked to believe that there is a kind of witchcraft about some of these sports; so that, when one becomes enamored of them it is impossible for him to quit them, or use them moderately. Of course, if the pastimes are good for any thing they will have some attractions for those who practice them. But the assertion, that there is any irresistible charm about dancing, or card-playing, or billiards, is simply absurd. A great part of the fascination which has attached to them has grown out of the prohibition of them. If they had not been forbidden fruit, there would not have been half so much hankering after them. It is very likely that there may be some weak-minded individuals who have such a *penchant* for some of these pastimes that they can not use them temperately. But the same thing is true of the simplest games. A clergyman told me, not long ago, that he had so strong a passion for checkers that he could not play at all without excess. The confession was not very creditable to his moral stamina, but I presume it was true. However, these individuals with decrepid wills must not rule the world with their frailties. There are certain persons who can not eat honey. What then? Shall we forbid or discountenance the use of honey by those who find it both wholesome and palatable? The lesson of self-control is always a difficult lesson; but it is no harder to learn in the play-ground than in the market or the court. And to tell young people that they can not learn, it is to make it probable they will not. The doctrine of unlimited babyism is not true, and harm is done by teaching it.

After these arguments are answered we may chance upon such a one as this, which I quote: "The test by which the sinfulness or innocence of any habit, practice, or amusement is to be judged, and accordingly to be indulged or discarded, is *the inevitable tendency of its aggregate influence.*"

Here we have this whole philosophy boiled down, and its result is a stupendous solecism. The sentence quoted furnishes one of the most remarkable instances on record of the use of words to conceal, or rather to smother ideas. Does not this philosopher know that a tendency is not inevitable, and that an issue which is inevitable is not a tendency? A tendency may be strong, a result may be inevitable, but an inevitable tendency is something like a white black bird. If he means by "aggregate influence" to assert that hitherto there has been more of evil than of good connected with the amusements he discards, that is admitted; and the obvious reason is, that good people have withdrawn from them, leaving them in the hands of the vicious and the dissolute. Any pastime will share the same fate under the same treatment. If good people all stop playing the little game about Simon and his thumbs, and forbid it to their children, then we shall have it played only by bad people, in bad places, and amid vicious surroundings, and learned doctors will be lecturing us about the "inevitable tendency of the aggregate influence" of Simon's thumbs. The fact that certain amusements have been involved in mischief is not accounted for by the "tendency" or the "influence" of the amusements themselves, but by a law of human nature. And the question now before us is, whether these amusements, so long held as the stronghold of vice, shall be repressed in the interests of virtue.

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This tendency argument is a very shallow, and sometimes a very wicked piece of sophistry. It is said, for instance, that card-playing leads to gambling. We are told that if a boy is taught to play cards for amusement, it is likely that he will become a gambler. The facts are that, of those who learn to play cards at home in respectable families, very few ever become gamblers. A large majority of the gamblers, who go down the dark way from the better circles of society, come out of houses where cards are never allowed. For every gambler who learned to play at cards with his parents and brothers and sisters, I will show you five who never were permitted the use of this pastime at home. Any individual who is not aware of the truth of this statement shows himself to be impervious to facts as well as principles. Moreover, there is no logical connection whatever between card-playing and gambling. It is true that men sometimes bet on games with cards; so do they on ball-matches, and horse-races, and the time of the great pedestrians, but there is no more reason why they should bet on one of these that on the others. There is no more logical or natural connection between playing cards and gambling than there is between throwing a ball and gambling, or between driving a horse and gambling, or between walking on a turnpike and gambling. The distinction between the innocent use of such a pastime and the abuse of it in gambling is as clear as the distinction between light and darkness; and whoever ignores this distinction, or tries, by argument or innuendo, to cover it up, is doing his best to confound the moral judgment of those to whom he speaks. If there is any worse crime than that, I do not know the name of it.

Of course, we shall not get out of this casuistical controversy without hearing something about Paul, and the meat which he did not propose to eat. This meat of Paul's has been the *pièce de resistance* of a certain class of reasoners so long that, to say the truth, it is getting rather stale. I am well aware that the possibilities of biblical misinterpretation are vast, but I doubt if any part of the sacred Book has ever been or will ever be worse perverted than this passage. Paul's refusal to eat meat was a voluntary concession to a prejudice. Certain persons thought it wrong for them to partake of meat which had been offered to idols; and therefore, Paul said that, for the sake of their consciences, he would abstain. But there was no attempt on the part of these weak brethren to impose this whim of theirs upon Paul. Suppose there had been. Suppose they had told Paul that he must not eat meat offered to idols; that if he did they would have no fellowship with him; that such conduct was unchristian; that to call men and women who ate meat offered to idols Christians was "a contradiction in terms, as much as to speak of humble fops, sober drunkards, and honest thieves" (that is what one religious body "resolved" about persons who dance); suppose they had assembled in synods and assemblies and conferences, all over the land, and had published resolutions against eating meat, with the evident intention of bringing every person who ate it into contempt and discredit—then what would Paul have said? I imagine we should have heard from him a manly assertion of his right to eat whatever is wholesome, and a sturdy denunciation of these brethren of the weak consciences, who would make their prejudices the law of his conduct. Happily we are left in no doubt of what his answer would have been. A comparison of the first three verses of the sixteenth chapter of the Acts of the Apostles with the first five verses of the second chapter of the letter to the Galatians will show exactly what Paul would have done in such a case.

The Glory and Shame of the Hair.

BY REV. CHARLES H. BRIGHAM.

THIS is a question to be decided by sex, if we may trust the Apostle Paul. He will have it that what is glory to the woman is shame to the man; that hair is the natural covering of the weaker sex, and so ought to be worn long, while it is a scandal for a man to appear in the solemn assemblies with flowing locks. He is followed in this judicial advice by the companies in our fashionable churches, where the damsels not only come weighted with all their own hair, but with a heavy mass which is not their own, while the youths by their sides come in fighting trim, with polls close cropped and shaven. There are few fashions which can not find warrant in the Holy Writ, and the fashion of wearing hair just now may use the Apostolic

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permission as freely as tipplers used Paul's counsel to Timothy, or slave-drivers Paul's injunction to Philemon.

The hair is by no means the most important of bodily organs and appendages. It can be lost more safely than most of the other organs. We can do without it better than we can do without eyes, or without ears, or without teeth. If any part of the body is to be torn away, this may be spared sooner than the rest. Yet no bodily appendage is the subject of so many experiments, no part of the frame illustrates so well invention and fancy. The management of the hair is with one-half of the human race a prime interest of life, to which most others must yield. It is an interest of the savage and the civilized state, as important in the court of France as in the court of Ethiopia. The "Queens of Society" are as much dependent upon their hair as those queens of the wigwam, who wear the most primitive of woven raiment. No work of human hands accomplishes more wonderful marvels of form than the slender threads as they are rolled and twisted. In nothing are the caprices of fashion more arbitrary and its changes more rapid. This year it is frizzle upon the forehead, next year it may be cushion upon the hindhead, in the next year pendent curls, and in the next year, perhaps, braided pig-tails. Now it will show down and around the ears and cheeks a "shining shore" of hair polished into a dazzling mirror. And then it will lie around the skull in coils like those of the Indian cobra. Sometimes it is twined with golden piastres, and sometimes fastened in the meshes of a net. Sometimes it flows unchecked like a river in freshet, and then again it is dammed above the head in a solid and precipitous wall. Now it is contrived to hold rodents in its burrows, and now to hang threatening in arrested cataracts. It can imitate the horns of Moses in the modern sculpture, or the horns of Pan in the ancient sculpture. It is combed and cleansed only to be powdered and dusted with metallic dust. Some who are dainty in their hatred of a dusky skin torment their straight locks with imitation of the negro's wool. What infinite ingenuity, what endless thought, what wealth of appliances, what hours of the precious day, are everywhere spent in this work of keeping the hair up to the fashion, of training, binding, and torturing it into the mode of the season! And when the wicked gray begins to fleck its lines, and prophesies of a blossoming almond tree by and by, what care to hide this sign of years! Along with the phials of perfume are ranged the phials tha hold to the hair its fading hues, or restore the colors which time is changing. And many a matron, who is careless of Paul's other words to the elder women, illustrates in the evening assemblies, as her hair is a wonder and delight, that line of Paul's epistle, "I protest, by your rejoicing, I *die daily*!"

With the other sex the fashion of wearing hair is less tyrannous and capricious. There are those whose hair shows no change from boyhood to age, except as it is cut from time to time, and bleaches into frost. It has always the same curve upon the forehead, always the same line of parting. Yet there are freaks of fashion which many men obey. Sometimes the hair must be worn long, as the Cavaliers wore it; sometimes it must be cropped in the style of the Roundhead. Now it is short before and long behind; and then it is long before and short behind. But if the hair of men is less liable to change in its order than that of women, fashion has its advantage in ordering the beard, that fatal gift of manhood which makes the barber a master of men. How much of the zeal of fashionable life is concentrated on this cut and curl of the beard. The Emperor of France is as proud of his moustache as of his imperial title, and twists it carefully for cabinet councils. A native Greek wears his badge of loyalty upon his upper lip, and swears by this as the Moslem swears "by the beard of my Father." A mutton-chop is found in perfection in an English inn, and the average aristocratic Englishman is known by his "mutton-chop whiskers." There are those who would show themselves kindred to the goat in their appendage to the chin, not mindful of Jewish tradition, or of the Christian judgment and sentence. Now the care of the beard consists in cutting it all away, in leaving on cheeks and chin and lips and throat no vestige of a hair; and then it envelops mouth and neck and breast in a volume of hair, like the mane of the Wanderoo, the pet baboon of King Solomon's court.

The way in which the hair is worn often decides the locality and nationality, still oftener the associations and tastes of the man. The Southern gentleman, before the war of the Rebellion, was known by his long locks; and these also have been the sign of the literary Bohemian as of the fanatical reformer. One of this class always warns his hearers that his speech will be odd and startling by the tangle of the fiery curls which hang from his long skull. Artists part hair in the middle, some say to look unlike other men, others because that is the "Christ style of the old painters." At one

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time, when Judge Shaw was on the Supreme Bench of Massachusetts, and Rufus Choate was at the head of its bar, the young lawyers affected the unkempt and dishevelled style, and cultivated wild and straggling clumps of hair. Different colleges, too, have their styles, the Yale style is not that of Harvard, and West Point has its own. Every one knows what is the prison cut, how convicts are shaven and shorn. Then the Quakers have their style, and the Catholic priests their style. The tonsure, a bald spot on the back of the crown, distinguishes the Catholic man of God, as much as his robe or his hat. The Gypsies wear their hair in one way, the Swiss peasantry in another, the German Jews in still another. Nay, there are African tribes who adopt the model of the fretful porcupine, and train their hair to stand on end, bristling erect over the skull, as if electrified. The Yankee style brushes it upward and backward, giving to the head in this way a natural helmet, often as stiff and harsh to the eye as any helmet of brass or leather. The comparative hair-dressing of different ages and nations is an instructive study.

The barber's trade is very ancient. We find it in the time of the Hebrew kings, and even the patriarchs practiced shaving. The razor, as an implement, is almost as old as the axe, and the stubble of the hair was gleaned along with the stubble of the field. Razors were loaned for money among the Jews and the Assyrians. The exact scriptural type of the properly shaved head it is not easy to determine. If the Oriental custom of the present day faithfully repeats the Hebrew way, the barber's work was rather on the top of the head than on cheek and chin. That bald pate, which is so much dreaded by civilized Christians, is the sign of respectability and beauty in Cairo and Damascus. But it is by no means certain that the present Oriental custom represents the ancient custom. We have no evidence that Solomon, or David, or Jacob, or Abraham, anticipated by their voluntary act the misfortune of Cicero and Cæsar. It was certainly the reproach of Elisha the Prophet that he was a "bald head;" has not the wicked mockery of those heedless children been improved as a solemn warning of Divine wrath in Sunday-school addresses without number? Absalom certainly did not shave his head. No man in all Israel so much as he was praised for his beauty. And at the end of every year when he polled his hair it "weighed 200 shekels of the king's weight." What a fortune for him, if he had lived in our time! Samson, the hero of Philistine wars, was strong in his hair; when his locks were shorn, he could only play with the women, and had no force of arm or will. In the earliest time, the beard more than the hair fell under the razor, and the painters are probably right in showing us Adam as smooth faced as Eve by his side, But think of Adam bald, or with a head like the head of the American historical Adams!

A question of great interest in regard to hair is of *color*. What was the primitive color? What is the sacred color? What is the best color? Did Eve have red hair, or yellow hair, or black hair? What was the color of the hai of Moses? Are the painters right in *giving* black hair to Judas, while they show John an Paul with auburn ringlets? There is probably no good foundation for the prejudice that red hair is specially religious, or that the saints in light wear on their heads the flame which torments the wicked for ever. In spite of Raphael and Titian, we may believe that angels on earth are as angelic with raven hair as with hair of Teutonic hue. The best color of the hair is that which is natural, which consists with temperament, constitution, and complexion. No man can improve his hair by changing its natural color, by dying it black or red, and no woman adds to her beauty by altering the shade of her curls. A preacher, who hides his thin light hair under a heavy black wig and dyes his beard, may beseech the people never so eloquently, but his skin betrays him; they will see the lie hidden under that wig and he will never be the captain of their salvation. It is no better to preach literally under false colors than to pretend to be orthodox when one is heterodox. Any incongruity between the color of the skin and the color of the hair is felt as an evidence of general insincerity. And the effect is ludicrous when the Marguerite of Faust shows a dark skin under her yellow hair, or when a swarthy Hamlet storms under a flaxen wig.

Every color for hair is beautiful, if it is harmonious with the form and feature which it adorns. The "yellow-haired laddie" may be as handsome as Adonis, and even the Albino may have grace in a snowy poll. But *dye* in the hair is never pleasant to the eye. There are dyes that will leave as their residue, the tints of a faded rainbow, metallic shades, which are more fit for harlequin than for a decent head. In the application of foreign hair, too, the law of fitness is not universally observed. The "top knot" sometimes darkens a lighter braid which looks out from under it. If false hair is worn, the only apology for the cheat is that it is a Spartan fraud, and is done so well

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as to escape detection. The ass in the lion's skin has his imitator in the traveled exquisites, who bring back from France such wealth and variety of fancy hairs, but withal speak French with the American twang. Old Isaac was shrewd, and under the hairy hand he detected the hypocritical tone of his false son. An actor on the popular boards may need various colored wigs and whiskers, if he is to appear in all kinds of characters, but in the ordinary societies of men and women, it is better to have one color for the head, and that the color which Nature gave. Gray hair is right, when the time for it comes, be this sooner or later; it is right for woman as for man. The gray curls of Mrs. Stanton add to the charm of her matronly appeals, and help her youthful looks more than any metallic oxides. Why should white be a fit and bright color for the furs which are worn in ornament, but hateful in one's own hair?

No man certainly would grow old before his time, and it is good fortune when in age, the head can keep the show of youth, provided this show is honest and lawful. It is not well to become bald or gray before years of discretion are fairly reached. The longer the hair can be kept on the head the better, and the longer it can retain its natural color the better. The hair-dresser's art is a useful art, in spite of the abominations which it encourages. And to save these lucubrations about hair from being desultory and pointless, we may venture to suggest some rules in the care of the hair, of some rules which, if followed wisely and steadily, will supercede the necessity of such heroic remedies as not a few are driven to try. A reasonable care of the hair, which will consume only a few minutes of every day, will save much despair, much moaning and groaning over this lost ornament and protection of the noblest part of the body.

1. *Keep the hair clean.* Wash it often. Clean it at the root and in the branch, in its mass and in its unravelling. Get all the dust out from it once, twice, or thrice, on every day. This is everywhere a timely advice. Even at sea the hair somehow catches floating particles, and the sea air will glue them close, if they are not at once removed. We are a nation of travelers, and no invention has yet made it possible to avoid the traditional dust of travel. A hundred miles of ordinary railway will fill the outer head as full of dust as the brain within is full of new pictures and images. Still worse is the stage-coach on the dry roads of summer. The hair is the most unwearied of dust collectors, more indefatigable than a *chifonnier* of Paris, and obstinate in turning back to its work, however often it is cleansed. It needs very frequent and very thorough ablutions, in the evening and in the morning and at noon-time.

2. Then, in the second place, the hair, to be kept in good condition, should not only be washed freely, *but stirred a good deal.* It may do for a California miner to boast that no brush is needed in his toilet, and that his nimble fingers are all the comb that he finds use for, but the hair of civilized society ought to know the comb which divides as well as the comb which fastens. Possibly many make too much use of the comb, and irritate the skin while they loosen the hair; the zeal which gives two or three hours in the day to this combing and brushing, is certainly worse than waste of the time. But a good deal of brushing may be used with profit, enough at any rate to move the roots and make the growth healthier and more vigorous. It may be added, that every man should have his own implements for this industry, and that the hotel custom of communism in hair-brushes is only one degree more respectable than the public tooth-brush of Western steamboats. Contagious disease or cutaneous eruption may readily lurk in the well-worn brush which has done duty for months or years in the common room.

3. Another thing to say is, that *unctuous substances are to be eschewed* in the arrangement of the hair. The African men and maidens rejoice in polls that drip with grease, and wear more butter on their heads than they spread upon their bread. Nothing is gained for the health of the hair by imitating their custom. There is always the sense of disgust in coming near to a larded human head, though the pomatum be costly, very precious ointment of spikenard which might be sold for three hundred pence. Ointment is better for wounds than for the hair. One may say, that in the Scriptures it seems to be commended. Did not the Saviour advise to anoint the head before prayer? And is not brotherly love likened to that superfluous flow of this precious grease, running down the beard of the High Priest, even to the skirts of his garments? In spite of these scriptural allusions, we may question the propriety of plastering and glossing the hair by any kind of oils. The unctuous head is not more agreeable than the oily tongue, from which flattering words glide insincerely.

4. Still more, *are dyes of all kinds to be shunned* by those who have respect to their hair. What-

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ever change these may make in the color for the time, they destroy the hair more steadily and bring on sooner the fatal change. They not only show the man as half a humbug, whether he be a Preacher, a Senator, or a Major-General, but they hasten the decay of the very substance they would preserve, besides seriously endangering the general health. No one who uses hair dyes habitually, has a right to declaim against hypocrites or against drunkards, or against tight waists and tight boots. A Temperance lecture by a dyed orator is rather a farce than a moral homily, and suggests a ludicrous issue of the man's labors. There are specious advertisements in the journals, indorsed by certificates from clergymen sometimes, of the harmless preparations for preserving and restoring the hair, for covering again the bald head, for changing scanty into flowing locks; but all these promises are delusive, all these seductive remedies insure more disease than they cure. *Rouge et noir* for the hair is to be classed with the gambler's balls, which ruin far more victim's than they enrich. He who "dyes daily" will die daily in another sense, will ruin his brain in trying to save his hair.

5. With equal emphasis do we say, "*Keep hot iron away from the hair.*" Curling-tongs are a weapon of Satan's device, as deadly as the pincers and thumbscrews of the Roman Inquisition. All the beauty of curls upon the forehead can not compensate the injury done by the drying and destruction of these delicate hair canals. Let the hair have its natural way, but do not try to force it into frizzle and corkscrew by any fiery art. It is cheery, perhaps, in a winter's morning to see the smoking necks of the horses resting from their gallop; but no man or woman ought to show the spectacle of smoking hair, the odor of which is its sufficient condemnation. Curl-papers for children may be tolerated, but when it comes to hot tongs for the hair, the anathema should be quick, positive, and stern. In the light of modern physiology, those who give heed to the seducing spirit of fashion, and lend their head, to the hair-dresser's curling skill, really get the fate which Paul foretells to his brother in the Lord, and have their *conscience* as well as their hair "seared with a hot iron."

6. And we may say further, that no more hair should be worn than will *keep the head cool.* It will not do to prohibit absolutely all false hair, to say that a bald pate shall never be covered by any thing but a hat or a cap. Wigs have been worn so long that they almost come within the Roman formula of sound doctrine, "*quod semper, quod ubique, quod ab omnibus.*" But the wigs which English barristers, and judges pile upon their aching heads, the masses of hair, inlaid, in coil, in roll, in puff, which weigh down the belles of the modern ball-room, are an offence to good sense, good taste, and good health together. For the sake of the brain, if not for the sake of the hair, falsehood of this kind should not be piled too heavily upon the head. The appendage should never be hot or heavy enough to burn up the native growth.

7. And we shall add one more advice, "*Do not tax the brain too severely, if you wish to keep the hair in good condition.*" Do not study too closely, or at improper hours. The brain reacts upon its outer covering. Sudden mental excitement will change the hair from black to gray in a few hours, and continued application will cause the hair to drop out long before its proper time Early baldness is usually hereditary, but it is also the result of unwise habits in the use of the brain. The ardent Trask will say that it comes from tobacco, and the apostles of Temperance will discover that strong drink ruins the hair, as it ruins all the rest of the man. It is possible that a too earnest concentration of thought on this important business of arranging the hair, may spoil the very material on which it so sedulously works, and that one who thinks of nothing else may lose his hair and his wits together.

It is quite likely that these suggestions, and indeed, the whole tone of this essay, may seem undignified. Yet those sermons of the third and fourth centuries, of Tertullian, Cyprian, Chrysostom, and the rest, which had so much to say about hair, only kept close to the word of Prophets and Apostles. Isaiah was severe upon "crisping pins," and the story of Jezebel illustrates the fate of those who spend much time upon hair-dressing. It can not be trivial to notice what holds so much of the heed and the anxiety, the joy and the pain, of men and women in this world. The hair-dresser for not a few in the cities, has a half priestly office, and holds the key of the Church, if not the key of the kingdom of Heaven. Can a fair devotee enjoy her religion in Grace Church, if her hair is not arranged for the solemn service? Can she pray in the spirit and with the understanding, if the proper unction has not been given to her bowed head? Can the Spirit write upon the tables of her heart, if she has not brought to the sanctuary her "head-bands and tablets?"

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OUR STUDIES IN PHYSIOLOGY.

*SIXTH STUDY.**

SOURCES OF LOSS AND GAIN TO THE BLOOD.

HAVING traversed the ultimate ramifications of the arteries, the blood, as we have seen, enters the capillaries. Here, the products of the waste of the tissues constantly pour into it; and, as the blood is everywhere full of corpuscles, which, like all other living things, decay and die, the results of their decomposition everywhere accumulate in it. It follows that, if the blood is to kept pure, the waste matters thus incessantly poured into or generated in it, must be as constantly got rid of or excreted.

Three distinct sets of organs are especially charged with this office of continually excreting carbonic acid, water, and urea. They are the lungs, the kidneys, and the skin. These three great organs may therefore be regarded as so many drains from the blood—as so many channels by which it is constantly losing substance.

Further, the blood, as it passes through the capillaries is constantly losing matter by exudation into the surrounding tissues.

Another kind of loss takes place from the surface of the body generally, and from the interior of the air-passages and lungs. Heat is constantly being given off from the former by radiation, evaporation, and conduction; from the latter chiefly by evaporation.

The blood which enters the liver is constantly losing material to that organ; but the loss is only temporary, as almost all the matter lost, converted into sugar and into bile, re-enters the current of the circulation in the liver itself, or elsewhere.

Again, the loss of matter by the lungs in expiration, is partially made good by the no less constant gain which results from the quantity of oxygen absorbed at each inspiration; while the combustion which is carried on in the tissues, by means of this oxygen, is the source not only of the heat which is given off through the lungs, but also of that which is carried away from the general surface of the body. And the loss by exudation from the capillaries is, in some degree, compensated by the gain from the lymphatic and ductless glands.

In the instances just mentioned the loss and gain are constant, and go on while life and health last. But there are certain other operations which cause either loss or gain to the blood, and which are not continuous, but take place at intervals.

These are, on the side of loss, the actions of the many secretory glands, which separate certain substances from the blood at recurrent periods, in the intervals of which they are quiescent.

On the side of gain are the contractions of the muscles, which, during their activity, cause a great quantity of waste materials to appear in the blood; and the operations of the alimentary canal, which, for a certain period after food has been taken, pour new materials into the blood.

Under some circumstances the skin, by absorbing fluids, may become a source of gain.

The sources of loss and gain to the blood may be conveniently arranged in the following tabular form—

A. INCESSANTLY ACTIVE SOURCES OF LOSS OR GAIN TO THE BLOOD.*

a. Sources of loss.
- I. *Loss of matter.*
  1. The lungs.
  2. The kidneys.
  3. The skin.
  4. The liver.
  5. The tissues generally.
- II. *Loss of heat.*
  1. The free surfaces of the body.

b. The sources of gain.
- I. *Gain of matter.*
  1. The lungs.
  2. The liver.
  3. The spleen, ductless glands, and lymphatic system.
  4. The tissues generally.
- II. *Gain of heat.*
  1. The blood itself and the tissues generally.

* Our Studies in Physiology are condensed from Prof. T. H. Huxley's English works, not published here.

* The learner must be careful not to confound the losses and gains of the blood with the losses and gains of the body as a whole. The two differ in much the same way, as the internal commerce of a country differs from its export and impor trade.

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B. Intermittently active Sources of Loss or Gain to the Blood.

a. Sources of loss.

1. Many secreting glands.

b. Sources of gain.

1. The muscles.
2. The alimentary canal.
3. The skin.

In the preceding Study I have described the operation by which the lungs withdraw from the blood much carbonic acid and water, with a fractional quantity of urea, and supply oxygen to the blood; I now proceed to the second source of continual loss, the kidneys.

The excretion of nitrogenous waste and water, with a little carbonic acid, by the kidneys, is strictly comparable to that of carbonic acid and water, with a little urea by the lungs, in the air-cells of which carbonic acid and watery vapors are incessantly accumulating, to be periodically expelled by the act of expiration. But the operation of the renal apparatus differs from that of the respiratory organs, in the far longer intervals between the expulsory acts; and still more in the circumstance that, while the substance which the lungs take into the body is as important as those which they give out, the kidneys take in nothing.

An average healthy man excretes by the kidneys about fifty ounces, or 24 000 grains of water a day. In this are dissolved 500 grains of urea, but not more than ten to twelve grains of uric acid.

The amount of other animal matters and of saline substances, varies from one-third as much to nearly the same amount as the urea. The saline matters consist chiefly of common salt, phosphates and sulphates of potash, soda, lime, and magnesia. The gases are the same as those in the blood—namely, carbonic acid, oxygen, and nitrogen. But the quantity is, proportionally, less than one-third as great; and the carbonic acid is in very large, while the oxygen is in very small amount.

It will be observed that all the chief constituents of the urine are already contained in the blood, and indeed, it might almost be said to be the blood devoid of its corpuscles, fibrin, and albumen. Speaking broadly, it is such a fluid as might be separated from the blood by the help of any kind of filter which had the property of retaining these constituents and letting the rest flow off. The filter required is found in the kidney.

The blood which supplies the kidneys is brought directly from the aorta by the renal arteries, so that it has but shortly left the heart. The venous blood which enters the heart, and is propelled to the lungs, charged with nitrogenous, as well as with the other products of waste, loses only an inappreciable quantity of the former in its course through the lungs; so that the arterial blood which fills the aorta is pure only as regards carbonaceous waste, while it is impure as regards urea and uric acid.

In the healthiest condition, the walls of the minute renal arteries and veins are relaxed, so that the passage of the blood is very free; and but little waste arising from muscular contraction in the walls of these vessels, is thrown into the renal blood. And as the urine which is separated from the renal blood contains proportionately less oxygen and more carbonic acid than the blood itself, any gain of carbonic acid from this source is probably at once counterbalanced. Hence, so long as the kidney is performing its functions properly, the blood which leaves the organ by the renal vein, is as bright a scarlet as that which enters it by the renal artery. Strictly speaking, it is the purest *blood* in the body, careful analysis having shown that it contains a sensibly smaller quantity of urea and of water than that of the left side of the heart. This difference is, of course, a necessary result of the excretion of the urinary fluid from the blood as it travels through the kidney.

As the renal veins pour their contents directly into the vena cava, it follows that the blood in the upper part of this vein is far less impure or venous, than that contained in the inferior vena cava, below the renal veins.

Irritation of the nerves which supply the walls of the vessels of the kidney has the immediate effect of stopping the excretion of urine, and rendering the renal blood dark and venous.

That the skin is a source of continual loss to the blood may be proved in various ways. If the whole body of a man or one of his limbs be inclosed in a caoutchouc bag, full of air, it will be found that this air undergoes changes which are similar in kind to those which take place in the air which is inspired into the lungs. That is to say, the air loses oxygen and gains carbonic acid; it receives a great quantity of watery vapor, which condenses upon the sides of the bag, and may be drawn off by a properly disposed pipe; and a minute quantity of urea accumulates upon the surface of the limb or body.

Under ordinary circumstances no liquid water appears upon the surface of the integument, and the whole process receives the name of the insensible perspiration. But, when violent exer-

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cise is taken, or under some kinds of mental emotion, or when the body is exposed to a hot and moist atmosphere, the perspiration becomes sensible; that is, appears in the form of scattered drops upon the surface.

The quantity of sweat or perspiration, varies immensely, according to the temperature and other conditions of the air, and according to the state of the blood and of the nervous system. It is estimated that, as a general rule, the quantity of water excreted by the skin is about double that given out by the lungs in the same time. The quantity of carbonic acid is not above one-thirtieth or one-fortieth of that excreted by the lungs. The precise quantity of urea excreted is not known.

In its normal state the sweat is acid, and contains fatty matters, even when obtained free from the fatty products of the sebaceous glands. Ordinarily, perspiration, as it collects upon the skin, is mixed with the fatty secretion of these glands; and, in addition, contains scales of the external layers of the epidermis, which are constantly being shed.

In analysing the process by which the perspiration is eliminated from the body, it must be recollected, in the first place, that the skin, even if there were no glandular structures connected with it, would be in the position of a moderately thick, permeable membrane, interposed between a hot fluid, the blood, and the atmosphere. Even in hot climates the air is, usually, far from being completely saturated with watery vapor, and in temperate climates it ceases to be so saturated the moment it comes into contact with the skin, the temperature of which is, ordinarily, twenty or thirty degrees above its own.

A bladder exhibits no sensible pores, but if filled with water and suspended in the air, the water will gradually ooze through the walls of the bladder, and disappear by evaporation. Now, in its relation to the blood, the skin is such a skin full of hot fluid.

Thus, perspiration to a certain amount must always be going on through the substance of the integument; but what the amount of this perspiration may be can not be accurately ascertained, because a second and very important source of the perspiration is to be found in what are called the sweat-glands.

All over the body the integument presents minute apertures, the ends of channels excavated in the epidermis or scarf-skin, and each continuing the direction of a minute tube, usually about one three-hundredth of an inch in diameter, and a quarter of an inch long, which is imbedded in the dermis. Each tube is lined with an epithelium continuous with the epidermis. The tube sometimes divides, but, whether single or branched, its inner end or ends are blind, and coiled up into a sort of knot, interlaced with a meshwork of capillaries.

The blood in these capillaries is therefore separated from the cavity of the sweat-gland only by the thin walls of the capillaries, that of the glandular tube and its epithelium, which, taken together, constitute but a very thin pellicle; and the arrangement, though different in detail, is similar in principle to that which obtains in the kidney.

The number of these glands varies in different parts of the body. They are fewest in the back and neck, where their number is not much more than four hundred to a square inch. They are more numerous on the skin of the palm and sole, where their apertures follow the ridges visible on the skin, and amount to between two and three thousand on the square inch. At a rough estimate, the whole integument probably possesses not fewer than from two millions and a quarter to two millions and a half of these tubules, which therefore must possess a very great aggregate secreting power.

The sweat-glands are greatly under the influence of the nervous system. This is proved, not merely by the well-known effects of mental emotion in sometimes suppressing the perspiration and sometimes causing it to be poured forth in immense abundance, but has been made a matter of direct experiment. There are some animals, such as the horse, which perspire very freely. If the sympathetic nerve of one side, in the neck of a horse, be cut, the same side of the head becomes injected with blood, and its temperature rises; and simultaneously, sweat is poured out abundantly over the whole surface thus affected. On irritating that end of the cut nerve which is in connexion with the vessels, the muscular walls of the latter, to which the nerve is distributed, contract, the congestion ceases, and with it the perspiration.

The amount of matter which may be lost by perspiration, under certain circumstances, is very remarkable. Heat and severe labor, combined, may reduce the weight of a man two or three pounds in an hour, by means of the cutaneous perspiration alone; and as there is some reason to believe that the quantity of solid matter carried off from the blood does not diminish with the increase of the amount of the perspiration, the quantity even of urea which is eliminated by profuse sweating may be considerable.

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The difference between the blood which is coming from, and that which is going to the skin, can only be concluded from the nature of the substances given out in perspiration; but arterial blood is not rendered venous in the skin.

It will now be instructive to compare together in more detail than has been done, the three great organs—lungs, kidneys, and skin—which have been described.

In ultimate anatomical analysis, each of these organs consists of a moist animal membrane separating the blood from the atmosphere.

Water, carbonic acid, and urea pass out from the blood through the animal membrane in each organ, and constitute its secretion or excretion; but the three organs differ in the absolute and relative amounts of the constituents the escape of which they permit.

Taken by weight, water is the predominant excretion in all three; most solid matter is given off by the kidneys; most gaseous matter by the lungs.

The skin partakes of the nature of both lungs and kidneys, seeing that it absorbs oxygen and exhales carbonic acid and water, like the former, while it excretes urea and saline matter in solution, like the latter; but the skin is more closely related to the kidneys than to the lungs. Hence when the free action of the skin is interrupted, its work is usually thrown upon the kidneys, and *vice versa*. In hot weather, when the excretion by the skin increases, that of the kidneys diminishes, and the reverse is observed in cold weather.

This power of mutual substitution, however, only goes a little way; for if the kidneys be extirpated, or their functions much interfered with, death ensues, however active the skin may be. And, on the other hand, if the skin be covered with an impenetrable varnish, the temperature of the body rapidly falls and death takes place, though the lungs and kidneys remain active.

The liver is a constant source both of loss, and in a sense of gain to the blood which passes through it. It gives rise to loss, because it separates a peculiar fluid, the bile, from the blood, and throws that fluid into the intestine. It is a source of gain, if not in quantity, at any rate in kind of matter, because it elaborates a substance, glycogen, which is capable of passing very readily into a kind of sugar, called glucose, and is carried off, in one shape or another, by the blood. Finally, it is probable the liver is one source of the colorless corpuscles of the blood.

The liver is the largest glandular organ in the body, ordinarily weighing about fifty or sixty ounces. It is a broad, dark, red-colored organ, which lies on the right side of the body, immediately below the diaphragm, with which its upper surface is in contact, while its lower surface touches the intestines and right kidney.

The nature of these active powers, so far as the liver is a source of loss to the blood which traverses it, is determined by ascertaining—

a. The character of that fluid, the bile, which incessantly flows down the biliary duct, and which, if digestion is not going on, and the passage into the intestine is closed, flows back into and fills the gall-bladder.

b. The difference between the blood which enters the liver and that which leaves it in respect of the constituents of the bile.

a. The total quantity of bile secreted in the twenty-four hours varies, but probably amounts to not less than from two to three pounds. It is a greenish yellow, slightly alkaline fluid of extremely bitter taste, consisting of water, with from seventeen per cent. to half that quantity of solid matter in solution. The solids consist chiefly of a resinous substance, composed of carbon, hydrogen, oxygen, nitrogen, and sulphur, which exists in combination with soda. This biliary matter or bilin, may be separated by chemical processes into two acids, called the Taurocholic (which contains all the sulphur) and the Glycocholic; and it is consequently said to be a combination of taurocholate and glycocholate of soda. Besides this bilin, its chief constituent, the bile contains a crystalized fatty substance, cholesterine, together with a peculiar coloring matter which contains iron and is probably related to the hæmatin of the blood.

b. Of these constituents of the bile the water, the cholesterine, and the saline matters alone, are discoverable in the blood; and, though doubtless some difference obtains between the blood which enters the liver and that which leaves it, in respect of the proportional quantity of these constituents, great practical difficulties lie in the way of the precise ascertainment of the amount of that difference. The blood of the hepathic vein, however, is certainly poorer in water than that of the portal vein.

As the essential constituent of bile, bilin, is not discoverable in the blood which enters the liver, it must be formed at the expense of the tissue of that organ itself, or of some constituent of the blood passing through it. However this may be, it is a very curious circumstance that, as almost all the bile which is poured into the intestines is re-absorbed by the vessels in their walls, it must, in some shape enter the liver a second time with the current of the portal blood.

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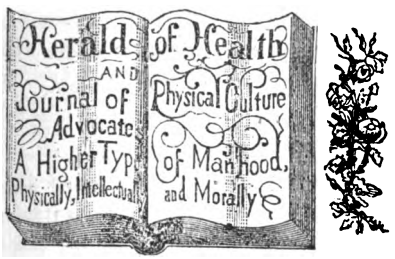
EDITORIAL DEPARTMENT.



NEW YORK, JUNE, 1870.

WATER.

"To the days of the aged it addeth length;
To the might of the strong it addeth strength;
It freshens the heart, it brightens the sight;
'Tis like quaffing a goblet of morning light."

☞ THE PUBLISHERS *do not hold themselves as indorsing every article which may appear in* THE HERALD. *They will allow the largest liberty of expression, believing that by so doing this magazine will prove to be more useful and acceptable to its patrons.*

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TOPICS OF THE MONTH.

BY M. L. HOLBROOK, M. D., EDITOR.

A NEW SIGNAL OF LONG LIFE.—Who would not welcome the discovery of a hitherto secret sign, placed by the Maker on this wonderful patented machine, the human body, and revealing a true answer to the tremendous question, How long will it last?

We will not stay to inquire whether such precise and sure knowledge about one's own mortal term would be pleasant to the soul in all cases; but it is a sort of knowledge that nearly every person would like to get hold of, and would be driven to get hold of, if he could, by the whip of an irresistible curiosity.

Is there any token about the body, or inside the body, which can tell a man how many years he is good for in this world, provided he behaves himself properly?

We are not about to answer this in the affirmative; and yet we are almost authorized to do so.

For, at the last annual session of the British Scientific Association, held at Exeter, two very startling papers were read by a distinguished physician Sir Duncan Gibb; and by these papers some very astonishing facts were communicated which show that the wise ones are at least approaching the discovery of a new test-signal of vital endurance.

The first of Sir Duncan Gibb's papers was entitled "An Obstacle to Human Longevity." He began by describing the leaf-shaped cartilage at the back of the tongue, which covers the aperture of the wind-pipe and is known as the epiglottis. Sir Duncan stated that circumstances having led him to suspect the posture of this organ of certain very important indications as to longevity, he had taken pains to make very extended observations. He had personally looked into the throats of five thousand persons for this particular purpose; and he had found that of these five thousand persons, all being healthy and of various ages, 11 per cent. had the epiglottis drooping or pendent, in place of being vertical. By a very wide range of induction he had come to the conclusion that if a person's epiglottis was pendent, the proprietor of the same need not count on any experience of the joys or sorrows of extreme old age. The facts which he rehearsed in support of this theory were very numerous, curious, and impressive. He had observed that in all persons over 70 the epiglottis is vertical, without a single exception—a circumstance of the highest importance, as bearing upon the attainment of old age among the Europeans and their descendants in America. He related many instances where the age varied from 70 to 95;

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and, in all, this cartilage was vertical. Many of these cases were of persons greatly renowned in the present century, such as Lord Palmerston, Lord Lyndhurst, Lord Campbell, and Lord Brougham. Sir Duncan had personally peeped between the noble jaws of these illustrious statesmen and lawyers; and he was able to account for their being the hale and hearty old fellows they were by the circumstance that the attitude of the epiglottis was, in every case, just what it should be. He likewise gave instances among old ladies still alive at ages from 70 to 92, whose epiglottis is vertical. This last fact, we confess, seems to us startling in more ways than one. Indeed, the more we think of it, the more amazing it becomes. Here is an instance of feminine presumption that ought not to pass without comment! What business had these old ladies with a vertical epiglottis apiece, just as if they had all been lords of creation. Even Physiology is getting demoralized by these modern reforms; and Anatomy itself permits such an arrogant display of Woman's Rights as a bevy of aged dames all having a full equipment of vertical epiglottises!

But, to return from this digression into which we were driven by the natural warmth of indignant feeling; Sir Duncan proceeded to give other instances, and among them that of a gentleman still alive, 102 years old, whose epiglottis was in the position to be expected from the foregoing theory.

After setting forth elaborately the facts that were included in his observations, he summed up his views in the following conclusions:

1. As a rule, persons with a pendent epiglottis do not attain a longevity beyond 70. Of course, he did not deny that there are persons beyond 70 with a pendent epiglottis; for he had not looked into the mouths of all the old ladies and gentlemen in the world. It, therefore, was not competent for him to assert positively how the matter stood with them. But he had examined hundreds of cases of people above 70, and not one of them had a pendent epiglottis; and this entitled him to the belief that it was very improbable that a person whose epiglottis was pendent could get beyond that period of life.

2. With pendency of the epiglottis life verges to a close at or about 70, and the limit of old age is reached.

3. A vertical epiglottis on the other hand, allows of the attainment of four-score years and upward, all other things being equal, and affords the best chance of reaching the extremest limits of longevity.

The learned baronet afterward read his second paper on "A Cause of Diminished Longevity beyond 70 Years." As will appear, this paper is only supplementary to the former one. He stated that a considerable portion of the Jewish race possess a physiognomy which he described as sanguineo-oleaginous, which we suppose is only a learned way of saying that the average Jew face is "bloody greasy." However, we decidedly prefer Sir Duncan's phrase, because, though it is not quite so plain and vernacular as ours, it is more polite.

Well, he proceeded to say that this sanguineo-oleaginous expression of the Hebrew countenance was "characterized by varying degrees of flushed color, sleepy aspect, greasy look, guttural or husky voice, and fullness of body." The best examples of the class are to be seen in the furniture auction-rooms of London; and, we could add, for New York, in the elegant marts of personal habiliments passing through the secondary or tertiary stages of their existence. Now, we do not know whether any of our readers have ever been so hapless as to fall into the hands of these London furniture dealers, or of these New York venders of aged and decayed clothing. But if any of them have had this experience, they have, of course, been miserably cheated; and perhaps it will be a balm to their spirits to be assured, on the high authority of Sir Duncan Gibb, that the most of these griping Jews, with sanguineo-oleaginous visages, have the epiglottis pendent rather than vertical, and consequently that they will surely be cut short in their careers of fraud and greed at the untimely age of 70.

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Here, once more, we may pause and admire the wisdom and benignity of Providence! Society is under the august protection of physiological law! How terrible it would be if these Jew-dealers in old furniture and old clothes, with their dreadful sanguineo-oleaginous countenances, had been endowed with vertical epiglottises instead of pendent ones, and thus had been suffered to prey upon society for more than seventy years each!

We are confident that all our readers, who have a proper sense of retributive justice, and who may have been innocent sufferers by the extortion and rapacity of Hebrew merchants, will feel a sort o exhilaration in knowing further what Sir Duncan Gibb has said about them: "As a rule, longevity is rare among such persons, for they are liable to those diseases of a congestive character which influence the heart, brain, and liver. The main cause of all this is eating food, especially fish, cooked in oil, which tends to the destructive formative processes in the system, and induces old age before the prime of life is reached, although the individual may appear to be the personification of good health from his weight, size, and color."

All this is very consoling; but Sir Duncan seemed resolute about making our cups to run over with happiness. Lest any one might have failed to perceive the application of the foregoing sentence to the Jew traders, he adds, with solemn tone: "Pendency of the epiglottis, associated with the sanguineo-oleaginous expression, is of serious import!"

The next time you pass the Jew store and behold its terrible proprietor looking so hearty and immortal, think of that sentence—and be happy!

In conclusion, we would say to every friend of ours, Look out for your epiglottis! It is verily the *index longevitatis*.

Here, too, is a hint to Life Insurance Companies, which they will not fail to appreciate.

Moreover, who can tell how this valuable discovery by Sir Duncan Gibb may revolutionize human manners; for just as people now look into horses' mouths to see how old they *are*, presently they will be looking into men's mouths to see how old they are *going to be!*

INSANE MURDERERS.—As we send the June HERALD to press, the trial of McFarland, for the murder of Richardson, is concluded. The verdict of the jury is, "Not Guilty." Judging from the evidence, this conclusion could not have been reached on any other ground than that of the murderer's insanity. Although every possible effort was made to prove it, yet there was not a shadow of evidence of any guilt on the part of Richardson or Mrs. McFarland which could justify the murder. Those who know either party knew this before the trial, quite as well as since. McFarland, on the other hand, though proved to be insane, was also proved to be a base, cowardly assassin. According to law he could not be convicted, simply because an insane murderer is not a responsible person. And here is where we complain of the law. If McFarland was insane, the probability is that he is insane still, and ought to be so treated, rather than set loose to commit other murders, as he very likely may. Are not insane murderers more dangerous to society than any other? Barbarous it is to hang them, to treat them brutally, but let there be a proper place of confinement for all such, where they can receive medical treatment and such care as they need. We earnestly hope this subject will receive the attention of legislators at an early day.

There is one more point connected with this trial, to which we wish to allude. The counsel for the defense seemed to think it necessary, in order to make out his case, to blacken the characters of a number of pure and noble persons, persons whom he can never be worthy enough to touch their cast off clothing. In the name of morality and decency we protest against this. If justice can not be secured without a resort to injustice, let it never be sought. Better, a thousand times, a wrong should go unpunished, than that punishment should be brought about through additional crime. And when, as in this case, the in-

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justice was done to prevent the ends of justice, the case becomes a hundred times worse. The vile calumny which has been heaped upon the murdered man and his widow, has been too mean to tolerate among people who love justice. May we not hope that the reaction will be in favor of right, which is a most difficult thing to obtain in criminal trials!

ANIMAL FOOD.—Mr. Brinkloe, Publisher of The Gardener's Monthly, of Philadelphia, sends us the following:

"*To the Editor of The Herald of Health:* The papers at present seem to be much concerned upon the matter of Hygiene and Health. We read in one that one sister *starved* another to death on graham bread, potatoes, rice, fruit, etc.; in another, that we do not eat near enough cheese, as it is just as digestible as beef or mutton, and supplies, *chemically*, the necessary constituents to the system.

The gross ignorance which is exhibited in this nineteenth century upon this subject would be excusable were it not that its devotees shut their eyes against all truth, and blindly follow blind guides when both tumble into the ditch.

Having given this subject much study and observation, a few hints, while they may not be new, may be interesting to your readers, as we all like to see new evidence in support of some favorite field of investigation or theory. Without knowing it, I had discovered an important fact—that the food taken into the stomach does not undergo a chemical action to make it fit for food for the system, but that it is by *assimilation*. And this fact has opened to my mind others no less important, among which is the fact that the system will not assimilate poisons, fatty matters (carbon), or even an excess of any one kind of food, if in a healthy condition. As an evidence of this, we may note the growth of the fatty matters in animals, which are undoubtedly poisonous secretions, and which are held in suspense by the system in that form to prevent injury to the tissues and nerves, and which after death grows hard and may be separated from the real flesh. In no case do we ever find the real flesh to become a part of the fat, or the fat to assimilate with the flesh. This being so, it is evident that in fat persons or animals, the secretion has been formed either by taking poisons direct, or by eating food which would not assimilate. Again, I have discovered that to animal food may be attributed nearly every disease that flesh is heir to, and have demonstrated still another fact, that all contagious diseases are parasitic and fungoid, either in the form of trichinia or spores of fungus, and that for their action they must have a weakened vitality, either from disease or exhaustion. And there is no more fertile means of producing exhaustion than by animal food. We all know that if meat is left in a warm place that it soon putrifies and becomes a mass of living organisms, and, if taken into the stomach and not digested, it becomes a mass of corruption, ready to receive the spores of any fungus which may be floating in the atmosphere. Or, should it be prevented from so doing by stimulants or condiments, it only becomes, like themselves, a part of the poisons which form the fatty secretions. Again, knowing that although vegetable matters decay, we also know that, unless joined with other substances, there is not that heat or condition which favors fungus or parasitical growth, or at least such funguses or parasites as attack animal bodies. We may with impunity eat a rotten apple, peach, or pear, but we can not eat putrified meat or fish without nausea and poisonous effects. And as meats are formed principally of carbon or fatty matters, and will not assimilate, they clog up the system, keep it constantly irritated, and consequently debilitated. Vegetables, being composed in great part of soluble juices, are easily digested, and, if not taken up by the system, soon pass off without doing much harm, if they have done no good.

These few hints may set others to thinking, at any rate, let us hope so."

ILLNESS OF PROF. AGASSIZ.—We are sorry to find that Prof. Agassiz does not yet recover his health. The papers announce that he is threatened with softening of the brain, and

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that his only hope is in perfect quiet. The cause is, of course, reported to be overwork. It is not long since the world was startled by the announcement of Prof. Agassiz, that brain-workers would find a diet of fish valuable in keeping up the vigor of the brain. Must we believe that the great *savan* was mistaken? We fear that the enormous number of cigars he is known to use, and the wine that finds its way to his brain, may have something to do with his troubles.

MORE ABOUT OUR MEDICAL HYENAS.—In former numbers of this magazine we have spoken our mind freely concerning those two-footed male creatures who study medicine in this city and in Philadelphia, and who during the past winter have lent so striking a confirmation to the Darwinian theory, that men are only developments of brutes. In the case of the objects now referred to, it may be doubted whether in fact the development from the brute state has proceeded very far.

We have some personal knowledge of these medical students; and we have some personal knowledge of hyenas. Precisely what difference, if any, there is between them, we do not feel prepared to state. We might say outright that the medical students *are* hyenas; and, perhaps, the medical students will reply that they don't care if we do call them hyenas. Very true; and there is no reason why they should care; but how will the hyenas feel about it? On the whole, the hyenas are the only parties that could prosecute us for libel.

After all, no epithets are half so damning as the simplest narrative of facts. Take, by way of sample, the following account, which is copied from The Philadelphia Ledger, dated February 8th:

"On Saturday last, for the first time in the history of the Pennsylvania Hospital, a large class of female medical students attended the valuable clinical lectures at that institution. These ladies are mainly, and perhaps exclusively, students of the 'Women's Medical College,' 1935 North College Avenue, a meritorious institution, to which we have several times invited attention through these columns. There were twenty-seven of them present at the Hospital Clinic, on Saturday morning, attending the lectures of Drs. Da Costa and Hunt. The fact is noteworthy as an interesting event in the history of our Philadelphia medical schools; but in addition to that, there is a necessity for comment on the occurrences after the lectures were over and the classes were dismissed. Between 200 and 300 male students, by a concerted plan, and in spite of the efforts of the managers of the hospital to preserve order, ranged themselves so as to occupy both sides of the whole of the foot-walks inside of the hospital inclosure, which compelled the twenty-seven lady students to take the cartway, and thus pass between the double lines of the male students, while the latter saluted them with taunts and jeers, mock applause, and real hisses."

While this exquisite scene was in progress in Philadelphia, another one, in some respects even more exquisite, was going on in New York. A party of lady students, some of whom are personally known to ourself as ladies indeed, and all of whom are regularly accredited as pupils in medicine, were duly admitted to attend lectures in Bellevue Hospital. They took their seats in a lady-like way, and endeavored to give respectful audience to the lecturer. Whereupon, the hyenas gathered close around them, thrust their brute heads forward among the faces of the ladies, uttered abominable words, handed notes of foul import, passed obscene pictures, and made themselves almost as disgusting as such beasts are capable of.

What should be done to such infamous ruffians?

We have, at last, hit upon a device exactly suited to their quality, both as a punishment for the past and a remedy for the future. Some will perhaps say, Expel them! No, not yet. Try our method first. Others would say, Donate them to the dissecting room, and let them help the cause of science in the capacity of *subjects!* No, not yet! For, although Galen used to dissect monkeys and other animals, almost as

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low as these students, we insist that our method shall be tried first. Perhaps others will say, Send them to jail, till they learn better manners! No, not yet! The jail is not exactly the best school of manners in the world. Besides, we suspect that some of these fellows have already tried the experiment, for they have jail manners still adhering to them.

No, the device which our inventive soul has hit upon is simple and sane! It will punish them without giving them a chance to be either mock-heroes or mock-martyrs, and we think that one application will cure them for all the rest of their natural lives.

In short, our method of dealing with these refractory, uncivil, obscene, insolent, over-grown boobies, is this: have a squad of policemen sent to the hospital. Let each policeman be provided with half a dozen large, thick, new shingles. Let the students be summoned in parties, say of a dozen, into some retired corner of the back-yard, and let each one be taken by a stalwart policeman and laid across the official knee, and then, when the intervening habiliments are appropriately disposed of, let the shingle be applied most lustily; and so let each booby be spanked until he howls the Declaration of Independence, the Fifteenth and Sixteenth Amendments, and the Multiplication Table backwards!

That, we repeat, is a device exactly suited to the dignity of the culprit; and we will stake our fortune and our fame upon it, that he will never again insult a lady!

Try it!

THE TEMPERANCE WORK among the poor and degraded is being carried on vigorously and successfully by the missionaries and Bible-readers of the city. There are now eight or ten Temperance Societies connected with the Board of City Missions; several of these are for women. The success in securing and holding women who had become victims of the cup, has been marked. In the "Woman's Temperance Union, No. 1," the first one organized for women, three years ago in the Thirteenth Ward, there are now twelve hundred members. More than three-fourths of these are reported as keeping their pledge most rigidly, with few lapses on the part of those who had been longest enslaved. Scarcely half this proportion has ever been true in our most successful labors among the men who have been enslaved by drink. This remarkable result is due largely to the fact that each member is visited *daily* by the missionary or Bible-reader the first month, and three or four times a week the second month, and at least weekly till quite confirmed. Besides this visitation, a meeting is held by and for them every Friday evening, and on Sabbath morning and evening. They meet at the Chapel, No. 70 Columbia Street. There is also a Society for the men, which meets at the same place on Monday evening, with a membership of over two thousand.

OUR LITERATURE ABROAD.—The London Cosmopolitan pays the women writers of America a just compliment, when it says "The works of Miss Evans, of Mrs. Southworth, Mrs. Oakes Smith, and Mrs. Stephens, are absolutely free from immorality, both in principle and suggestion. We have never read an American novel of a meretricious character, and their writers are far superior to the English on the score of moral purity. This can not be said of the most popular fictions written by English authors, and more especially by English female authors. . . . It would be very easy, although it might subject us to a prosecution for libel, to name certain women writers of London, whose only attraction is the universal vice arising from the abuse of sexual passions. From Preface to Finis they seem to roll it as a sweet morsel under their tongues. This is also true of the present novelists of Paris, Arsene Houssaye being the chief of sinners in this respect; Madame George Sand having cooled down with age, and Dumas, *père et fils*, having exhausted the resources of the *demi-monde*."

Verily the age is "sowing the wind, to ere long reap the whirlwind," for the passion for fictitious literature is now universal. Formerly heads of families gravely discussed the propri-

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ety of admitting the novel into the household; now there is neither let nor hindrance, and every one, from the head to "the maid that does the meanest chores," regales himself with some of this prurient literature, with which American publishers flood the country from abroad, because it can be procured free of copyright, and the public mind is ravenous for this most pestilent aliment. The only cure for this appetite is to supply a wholesome literature, in which the reader will not only find a source of amusement, but matter for thought and judgment. A story that deals only in *incident* is no better than a police report.

"PERSONAL BEAUTY: How to Cultivate and Preserve it in Accordance with the Laws of Health," is the title of a new book by Dr. D. G. Brinton, and Dr. George H. Napheys. It is a well-considered and sensible book upon a subject of great personal and public interest. It is an attempt, and we must say, upon the whole, a very successful one, to unfold the principles and arts of personal beauty in the light of medical science. "This department of cosmetics, (we quote from the learned authors themselves) 'Chirurgica Cosmetica,' as the old surgeons styled it, is a border-land between Science and Idealism, between the physician and the artist, and must henceforth take its position as an important field of professional industry.

It is, we say, a border-land between the physician and the artist. It is wholly within the province of neither. Health is the source of beauty, but the stream does not stay for ever by its fountain."

As there are some who make no secret of their contempt for cosmetic arts, the authors make their apology in the following strain: "If we take under our special charge this slighted branch of study, if we seek to bend to its elucidation whatever the austere oracles of medicine and the humble artisans of the shops can furnish us, let not the effort be disdained. Innocent devices to highten the effect of beauty have nothing derogatory about them. For, as the wisest of poets has said,

'Nature is made better by no mean,
But nature makes that mean; so, o'er that art,
Which, you say, adds to nature, is an art
That nature makes.
. . . . . This is an art
Which does mend nature—change it rather; but
The art itself is nature.'

It is our intent to lay down those rules by which the most desirable form, color, and grace in the human body can be obtained and preserved; and, further, to tell of those artfices, if you will, by which these qualities can be imitated when they can not be acquired. Some of these means are dangerous and injurious. And against these we shall speak words of warning. Others are harmless; and to them there can be no objection, from the physician's point of view. But we know our responsibility does not cease here. Do we run the danger of ministering to vanity, or to deceitfulness? There is no vanity, necessarily, in making the best of ourselves; and a desire to please others in our appearance, as well as actions, has nothing about it reprehensible. What good thing may not be applied to some ignoble end? There is nothing blameworthy in the love of beauty, nor in its cultivation; nothing contrary to purity or religious faith."

Whatever difference of opinion may exist as to the wisdom and safety of the advice, in some cases, offered by the authors of this book, there can be none, we think, as to the general correctness of their recommendations. In some particulars their views seem to be opposed to the teachings of most Hygienic reformers. Yet the most uncompromising opponent of flesh diet and drugs could hardly withhold the tribute of gratitude to the learned authors, for rescuing this important department of knowledge from the exclusive control of quacks and charlatans, who avail themselves of the ignorance of the public to palm off many secret and mischievous preparations. It is no small advantage to have the secrets of cosmetic art laid open, and the injurious effects of nostrums in general use pointed out and emphasized by competent medical advisers.

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How to Treat the Sick.

How to Prevent Consumption.—There is no disease whose nature and treatment is so full of interest to the community at large as consumption, because none is so prevalent and so generally fatal. Scarcely a person lives who has not lost a relative, a friend, or at least an acquaintance by the fell destroyer. But though familiar with its symptoms and its history and its presence, we are still to a great extent ignorant of its first cause, ignorant of its nature, and ignorant of its cure.

We shall not occupy space in giving our theories on these points. The discussion of theories belongs more to strictly medical journals. Our object is to give facts of a practical nature as far as we understand them. And in the present case, we desire to call attention to only one element, and a very important one in the character of consumption, that is, its transmission from parent to child. We say of this disease that

IT IS HEREDITARY.

By this we mean that consumptive parents are apt to have consumptive children. Or it may pass over one generation and appear in their grandchildren. This is a generally-accepted doctrine, supported by medical experience and public opinion. We are told that in one of the rural cemeteries of Massachusetts, over the grave of a man and his wife who had both died of consumption, is this inscription: "Insatiable disease! thou hast destroyed both parents: spare, O spare our children!" It would seem as though the minds of the dying parents were filled with the thought that they had transmitted the seeds of disease and death to their offspring; and scarcely one would deny that they had good grounds for their fear. Yet it does not follow that in any case consumption must necessarily be transmitted; on the contrary, there is a certainty that

IT CAN BE PREVENTED.

While it is true that a tendency to consumption is transmitted from parent to child, it is equally true that in most cases, if proper precautions be followed from infancy to maturity, that tendency can be overcome, and the individuals become strong and healthy. But, to this end, years of watchfulness, of careful attention in details, and, it may be, of sacrifice, are required, and few are equal to the task. Still more, many are ignorant of the common laws of hygiene—obedience to which brings health; and some are careless of them, with little faith in their efficacy.

We shall devote this article to a brief summary of the precautions necessary to be taken with children of consumptive families, in order to protect them from the disease to which they are liable. And these same precautions will, of course, be still more effective in preserving in health those who are not of consumptive families, than those who are.

CLIMATE.

It is certain that some countries enjoy comparative immunity from consumption, while others are scourged with it. And, as this irregularity in the distribution is to a great extent independent of the state of civilization and the customs of the people, the result must be attributed to the climate. And the evidences are all in favor of those countries possessing a dry atmosphere. Not necessarily a warm climate. The Northwest Territory, Minnesota, the high lands of Mexico, and other places, may vary in the degree of temperature from cold to hot, but they are equally fortunate because of their dryness.

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THE RESIDENCE

of the consumptive should then be in a dry country, and especially in a dry section of that country. Avoid a damp soil for residence. The report of the English privy council on this subject, as well as investigation made by others, show that in localities thoroughly drained there was a marked diminution in the number of deaths from consumption. The house should be on a slope, rather than a plain, where the sun can have free access. It should not be thickly surrounded with trees, nor covered with vines. Rooms large and well ventilated. The old-fashioned fireplace is a ventilator of the first class; but if the house be heated by air-tight stoves and furnaces, ventilating shafts of some description should be adopted. Let sunlight and air into the house; throw open blinds and curtains. Every morning the windows should be opened wide to let out the foul air that has accumulated during the night. And at night be not anxious to close the windows very tight—even if it is in winter. Leave a few air-holes, and put on more blankets. Do not be afraid of

PURE AIR.

People are apt to be greatly alarmed about "catching cold," and if the weather is not of the mildest possible kind, are fearful of venturing out. Says an eminent physician, giving advice to consumptives, "Whenever in doubt about going out, ALWAYS GO OUT. If a violent storm is raging then keep within doors, but when it ceases, seize the occasion for out-door exercise." Pure air, to a consumptive, is the greatest blessing. The oxygen which it contains is necessary to the purity of his blood. Without oxygen there is no life; and the consumptive, of all persons, needs this life-giving element. The air that he breathes should, therefore, be of the purest quality. Not only should it be air free from the odors of decaying vegetable and animal matter, steaming up from filthy back-yards and streets, from slaughter houses, and oil refineries, and bone-boiling factories; but it should also be air rich in oxygen. The air we inhale loses its oxygen, which is replaced by carbonic acid, a poisonous gas. Consequently, we should not breathe the same twice. Without the oxygen, health and life soon vanish; let a poison like carbonic acid take its place, and the fatal end is the sooner hastened. See, then, how essential it is for the child, tainted with consumption, to have pure air, not only out-doors but in-doors as well. And he wants the

SUNLIGHT

also. Plants deprived of light, if they succeed in living at all, are thin, white, unhealthy. So children, as well as adults, living in rooms where little light enters, grow up pallid, emaciated, sick. The researches of science point out the sun as the center of force and life to all organized living beings, whether vegetable or animal. The rooms occupied by a consumptive should then be free to the light of the sun, with not the thinnest vail to shut out his rays. Besides these natural elements of health he will need plenty of

NOURISHING FOOD.

Enough to eat, but simple in quality. From the food the blood is formed, and if the one be deficient in quantity or quality, so will the other. A person may have plenty to eat, but if it be of poor quality he will suffer more than if he had but a small quantity of the proper kind. A man may die of thirst on the ocean with "water everywhere, but not a drop to drink." So he may starve when surrounded by an abundance, if it is unfit for nourishment. Avoid stimulants and condiments, pastries and candies. They not only fail to nourish, but when given to a child spoil its appetite for wholesome food. Beef is a valuable article of diet—hog meat the very opposite. But it is not so much any special article as the general rule of simplicity in the character of the food.

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CLOTHING.

Deficient or improper clothing, leaving the necks and arms and legs of children bare in winter, wearing thin shoes, compressing the lungs with tight dresses, instead of leaving them free to draw in all the air possible; all this is inviting consumption and strengthening its power. Children are often sacrificed to the vanity of parents, who dress them to look like angels, and very often make angels of them by so doing. "Plenty of flannel for the children," said John Hunter, and if the advice were followed there would be fewer little graves in our cemeteries. The first object of dress is protection, ornament should be secondary. A healthy dress is a comfortable one, warm in winter, and in the changeable weather of spring and autumn, cool in the heated summer.

CLEANLINESS

is called for, washing the body daily with cool water, all over thoroughly drying the skin after every bath.

EXERCISE

in the open air is necessary to health, for all classes. But a little judgment has to be used, not to overdo it. Especially is this the case with young men. The extravagances of athletic sports often do more harm than good, injuring both body and soul. Betting and gambling affect the one, while strained, over-exertion affect the other. Injuries to blood-vessels and heart, to muscles and joints, have frequently been traced to undue indulgence in ball-playing and rowing. The question is sometimes asked, What effect has our system of

EDUCATION

upon the health of pupils? The danger lies in too much study. Prolonged intellectual labor, even without the miserable hygienic arrangements too common in our schools, has hurried many a youth to his grave. Five hours a day, including recesses, is time sufficient; while more is injurious to the majority of children. Some children take great pleasure in study, and, instead of being guided and controlled by parents and teachers, they are more likely to be encouraged to put forth every effort. They are stimulated by the approbation of friends, and the prospect of winning honors and carrying off prizes. The evenings at home are occupied with school studies, and the days are often spent in rooms very unfit, especially in winter, when they are over-heated and poorly ventilated. There is danger in attempting to cram the memory, and in exercising the mind, at the expense of the body. Physical training should be part of the regular course of study at school, and for girls as well as boys. Whenever reference is paid to physical culture, it is generally in reference to boys alone; while the future wives and mothers of the country are not considered. The bodies of the one class require care as well as the other, and especially in the case of consumptive children.

OCCUPATION.

The choice of trade or profession is of great importance. A man may, in general, follow almost any occupation with comparative safety by taking proper precautions, and by strict attention to hygiene. But there are some especially injurious to any one with a tendency to consumption. Any of those practiced in places where fine dust is floating in the air, as machinist, knife and scissors-grinding, etc.; the dust clogs up the small air-cells of the lungs, and hastens the advent of the dreadful disease. All trades that cramp the chest should be avoided such as that of shoemaker and seamstress. These not only hinder the free expansion of the lungs, but being from their nature sedentary, they become doubly injurious. The consumptive youth should avoid all sedentary occupations, such as clerkships, or any other semi-literary employment, and should choose the more active occupations, which will call for bodily exercise in the open air. He should also avoid all manner of

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EXCESSES,

whether mental or physical, of labor or pleasure. Excesses in the use of alcohol, apart from their general injurious effect, should be specially avoided by the consumptive. Its use drives the nervous system to insanity, permanent as well temporary, stimulates the circulation to a more rapid flow, causing obstruction of internal organs and various diseases, and besides, impairs digestion and destroys the appetite for wholesome food. It is a false idea that the person with a tubercular tendency will escape by the free use of liquors. He runs more risk of dying by consumption than if he kept sober, and the only escape he has, is when he is killed by the whisky before consumption gets a chance. Excesses in the sexual relations also hasten the attack of consumption, and render it more speedily and certainly fatal.

We have already stretched this article to an undue length, and must close, leaving the consideration of other points to some future time. But by pursuing the course we have recommended steadily, not for a few days, nor a few months, but from the cradle to maturity, there is no doubt the tendency to consumption can be crushed out; and, in the language of another: "Out of weak, puny childhood we may form stalwart men and graceful and healthy women, fit to be the future parents of the race."—*Editor Canada Health Journal.*

TREATMENT OF SICK CHILDREN.—*Editor of Herald of Health:* I was reading, a short time since, Dr. Humphrey's description of a case of cholera infantum treated at first drug-opathically, when it occurred to me that one of an opposite treatment might be interesting to the readers of the columns of "How to Treat the Sick" without medicine.

My little boy, who has never eaten any meat, salt, butter, cookeys, doughnuts, or the like, was taken violently sick last summer, during teething. He seemed as well as usual that morning, only he ate no breakfast, which I knew was a sign that something was wrong, as he never eats when not well. Before I left the table, he was taken with bloody discharges and rapidly grew cold, though a very warm day. I never saw one grow sick so fast; he had eight discharges in an hour, with griping pains. I put his feet in warm water, made a bed of warm blankets, put a bottle of hot water to his feet, and warm flannels on his knees. Stationing myself at his side, I put flannels wrung out of hot water on his bowels, and gave a cool injection after every discharge, and watched his face closely. I might have before said, he went into a stupid sleep when first taken. Soon, there was a red tinge on his cheek, and the discharges stopped. I expected a fever to follow the cold stage. When he was well warm, I removed the bottle from his feet, and gradually, as the color returned to his cheeks, removed the coverings. His sleep became natural, and moisture gathered on his forehead, which showed Nature triumphant. In three hours from the time he was taken he awoke with a smile, and in a few hours was at play again as well as usual, only a little weak. Such was the termination of one of the most alarming cases of cholera infantum. Which is the better way, my treatment or the Hygienic; Hygienic diet for children, or the fashionable way of feeding them?—*Mrs. M. E. Cox, M. D.*

INFANTILE OPHTHALMIA.—This disease in infants is, among the lower classes in cities, very common. It is generally due to contagion, bad air, and filthy surroundings. The first thing indicated in the treatment is cleanliness. Let the child, when washed, have absolutely clean sponges and linen, and never those that have been used for other purposes. Usually the disease appears two or three days after the birth of the child. In most cases it may be avoided, by Hygienic treatment.

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ANSWERS TO CORRESPONDENTS.

BY A. L. WOOD, M. D.

Enlargement of Liver and Spleen.—"In all the Hydropathic works I have read, I have found no entirely successful plan for the relief of the enlargement of the liver and spleen—the effect of malarial influences. Still, the Hydropathic plan, as I have learned it, is more successful than the mercurial treatment of the Allopathic system. Here, in this county, the malarial poison is so intense, that we, not unfrequently, have chills of such severity as to defy all remedial means, and the patient must die without any reaction. In a large number of cases, the liver and spleen are left, upon the relief of the fever, large, tender, and more or less inactive. In a good many of these, where the patient lives (and for years has lived) in a very malarial region, the liver and spleen become enormously enlarged, the blood thin and watery, and the patient dropsical. I suspect you never see such enlargement of the spleen as we often witness here, as New York is free from the miasms common to our creek and river lowlands. I have a case, a recent one, in which the spleen is palpable over three-fourths of the abdominal surface—with anasarca, ascites, and much distension of the scrotum. The patient is pale, and the blood seems to be almost all serum I shall lose him, I think, as his present condition is only an aggravation of a habit of system of many years' duration. However, I have undertaken his case, and shall do all I can for him, 'knotty' as it is. I wish I had your Laight Street Turkish Bath here for awhile, then I could be quite hopeful of his restoration. In all these cases, the skin is about equivalent to tanned hide of the thinner kind—dry, inactive, from which no true perspiration takes place, but through which a watery transudation passes, having very much the effect on the patient that a diarrhea, or diabetic urination would have—that is, whenever the skin is moist at all. As you insert an article on some disease in each number of your HERALD OF HEALTH, which I take, I should like to see a short essay on the condition I have mentioned, and the details of treatment."

The above is from a physician in Western North Carolina. Judging from his description his section of the State is not a very desirable one to live in, and the sooner the inhabitants migrate to some healthier location the better. But by proper attention to bathing, diet, and an observance of the laws of health generally, the people would be able to prevent a large share of the sickness they now suffer, and many of them escape it altogether. As long, however, as their principal food is "hog and hominy," and their luxuries tobacco, whisky, and coffee, they will continue to suffer and die as at present. The physicians there should teach the people how to live, so as to suffer as little as possible from the effects of the *malarial* poison. If the liver, skin, and other depurating organs are kept in a healthy, active condition, the system will generally be able to expel the malarial poison through them without much difficulty. But, if they are kept in an inactive and diseased condition by the aforesaid "hog and hominy," etc., the system is unable to expel the poison, and it keeps accumulating, causing enlargement, dropsical diseases, and death. The diet of people living in such a place should consist principally, if not wholly, of fruits, grains, and vegetables, plainly and simply prepared. No pork, lard, or greasy food of any kind. No superfine flour, fat or salted meats, and, in most cases, the less meat of any kind the better. The same is true of sugar. Pure soft water should be the only drink. This can be obtained by filtering rain water, if in no other way. No tobacco, alcoholic liquors, tea or coffee. A daily bath with thorough friction of the skin.

In regard to the treatment of the case mentioned, there is but little chance for recovery, unless the patient is removed from the influence of the malarial poison. Our treatment here, in such a case, would be Turkish Baths, to restore action of the skin and eliminate the poison from the system; the Movement Cure, vibrations, and electricity to promote the action of the torpid organs, cause absorption, equalize the circulation, increase the respiratory action,

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and strengthen the muscular system. The best substitutes for the Turkish Bath, available for home use, are the wet-sheet pack, the vapor bath, and the lamp bath. Full directions for applying these will be found in a little book entitled "Water Cure for the Million," to be had at this office; price, 35 cents. Thorough and oft-repeated friction, rubbing and kneading of the whole body, while exposed to the direct rays of the sun (the patient being nude), is one of the most useful modes of treatment which can be pursued outside of an institution. Percussion and vibration of the sides and abdomen should be given daily. The bowels should be moved daily, by tepid water enemas if necessary. The diet should be as indicated above.

Over-development of the Lungs.—"I noticed in the April number of THE HERALD OF HEALTH, that the process of expanding the chest may be carried to excess. I presume this applies to a full-grown man, but does the same rule hold good in the case of a growing boy, 15 or 16 years old? The process of expansion, it is said, consists not in the increase of the number of cells, but in filling those already formed with air. Now, in a boy the cells have not obtained their growth, and it seems to me that exercise would tend to prolong and increase the growth, as well as the fullness of the cells."

The same rule holds good in the case of a growing boy or girl as in that of a grown person; the development of the lungs may be carried to excess, although it seldom is. What we need is an harmonious development of all the bodily powers, then there will be no danger of over-development of any part. If the development of one part or organ is carried to an extreme, some other part or organ lacks development in a proportionate degree.

Unnatural Appetite.—"Why do some children eat dirt, chalk, or common gravel, and is it safe to indulge the child in its unnatural appetite, or is there a substitute for it?"

Because they do not get the amount of mineral matter in their food which their systems require. Give them plenty of graham bread or oat-meal, instead of fine-flour bread and other starchy food, and they will evince no desire for chalk, dirt, etc.

Swelled Neck.—"Will you be kind enough to inform me if there is any cure for what is commonly called the 'big neck?' My neck has been growing immediately in front for a number of years; it gets sore toward night, and worse if I take cold. It feels as though I was choking. My diet is composed almost entirely of fruit and vegetables."

It has generally been considered incurable, except in its early stages, though it is not always so. The patient should pay particular attention to the laws of health in every respect. Pure DRY air, sunshine, and pure SOFT water are especially important. A cold, wet bandage should be worn as tightly about the neck at night as comfort and free respiration will allow. Friction, rubbing, vibration, and manipulation of any kind, also the cold douche and exposure of the swelling to the direct rays of the sun, are the most effectual local means of cure.

Weak Eyes.—"I am troubled with a collection of secretion or matter in the corners of my eyes. They are, however, neither painful nor inflamed. Notwithstanding my diet has been for some eight months a vegetable one, and my habits have been regular, there seems to be no change for the better. Will you be so kind as to suggest something which, applied to the eyes, will be beneficial, and, perhaps, effect a cure?"

Bathe the eyes often in tepid or cool water, whichever feels most agreeable, and avoid using them more than you can help, especially in any kind of artificial light. Avoid all stimulating articles of food and drink. If inclined to over-eating, guard against it.

Camphor Gum.—"Is camphor gum a safe stimulant when one feels a special craving for it?"

No one in a healthy condition ever feels a craving for such an article. A moderate amount of camphor will not kill a person, but it is injurious and of no use. A craving for it is the result of habit or of wrong dietetic conditions.

Colic.—"What is the cause and cure of colic?"

An answer to this query will be found in the May number, page 235.

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NOTICES OF NEW PUBLICATIONS.

TALKS TO MY PATIENTS; HINTS ON GETTING WELL AND KEEPING WELL. By Mrs. R. B. Gleason, M. D. New York: Wood & Holbrook, Publishers, No. 15 Laight Street. 1870.

This is one of the best, if not the best book of the kind ever published. Delicate subjects are handled with womanly tact and delicacy, no less than with courage and good common sense. So many thousand years as these human necessities of life, of birth, development, growth, and decay have existed, they are comparatively little understood and regarded, by women most especially, with a false shame or a singular indifference. The most common and natural processes of being are considered as subjects outside the pale of familiar consideration, and boys and girls grow to maturity with no just or rational views upon that which is of vital importance to them; often, also, with coarse and even obscene ideas upon what is in reality not only beautiful in a human sense, but holy in a divine sense.

We would gladly see this work in the hands of every young mother in the land; it would serve to give her confidence in herself and in the divine provisions of nature. She would be saved from that weak and senseless fear which embitters the life of the young wife and mother, and leads her to adopt courses destructive to her peace of mind and detrimental to her health; for Mrs. Gleason not only tells us the best methods to insure the last, but she is a moral teacher also, with just views, and resolute faith in the uprightness of design in the human creation.

The full, gracious womanhood of the author is apparent throughout, not unmixed with a cheerful humor quite refreshing upon such subjects. She is evidently familiar with the pen, and uses it with ease. She is sufficiently scientific, but not technically so, and her book may be cited as proof that women never undertake any thing they are unable to accomplish; that it they make a claim they are able to make it a justifiable one; and this of theirs to the medical ranks is one peculiarly and properly to which they are entitled. We are proud to say that they honor the Profession; they are fast driving from its ranks those unprincipled charlatans who cater to the weakness and wickedness of woman, and render marriage a barren and dishonored relation.

ELIZABETH OAKES SMITH.

THE PUBLISHERS' DEPARTMENT.

Contributors to this Number.

MRS. ELIZABETH OAKES SMITH,
HENRY WARD BEECHER,
F. B. PERKINS,
ARCHIBALD MACLAREN, of Oxford, Eng.,
WASHINGTON GLADDEN,
REV. CHARLES H. BRIGHAM,
PROF. HUXLEY,
DR. A. L. WOOD, and
THE EDITOR.

Irregularities in Mailing.—The May HERALD OF HEALTH, though published early in April, was mailed late, and some of our subscribers began to fear it was not going to reach them at all. The occasion was, that we have been adopting Dick's method of mailing, and were delayed in getting it into operation beyond our expectations. If any failed to get it or any previous number, they will please inform us. If any found their names misspelled or wrongly directed on the little printed label, they will also please to let us know. We desire to have our mailing lists accurate, and shall be glad to have all errors fully corrected. We hope hereafter there will be no cause for complaint. By this method our subscribers, it will be seen, can keep their own accounts as to when their terms of subscription close; for instance, if the printed slip has "De70," or "Je71" added to the name, it signifies that the subscriber's term of subscription expires with the December number of 1870, or the June number of 1871, and so on *et seq.*

Appointments.—Dr. Susan Everett will lecture on Physiology and Hygiene at Syracuse during the first part of June. She has been lecturing in Western New York, most successfully, for several months. She has been urged to lecture at several of the watering places during the summer.

Her Postoffice address for June is Syracuse.

Talks to My Patients.—Mrs. Gleason's book, advertised and noticed elsewhere, is meeting with a good sale. We can supply it to subscribers and agents in any quantity. A good many ladies are selling it with success. We should like to have in every town a good Lady Agent. For particulars of agency, write to the Publishers.

A Good Sewing Machine is given free for a club of 35 subscribers and $70. This premium is very popular. If there is a poor, deserving family in your neighborhood help it to get a good sewing machine by subscribing at once. Perhaps your minister's wife wants one. If so, help her to get it, by helping her to get up a club. The Empire is one of the best sewing machines in use, and we are sure that it will give you good satisfaction.

Our Premiums.—We shall be careful to send out as Premiums nothing which is not all that we claim for it in value. No cheap, second-hand, or indifferent article will be used.

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Facts for the Ladies.—I have used my Wheeler & Wilson Sewing Machine over ten years without repairs, and without breaking a needle, although I commenced the use of it without any instruction. Have used it constantly for family sewing; have quilted whole quilts of the largest size, and is still in complete order, runs like a top, and bids fair to be willed to those who come after me, with better powers of production than an unbroken prairie farm.

Whitewater, Wis. MRS. H. E. G. AREY.

How to Send Money.—In making remittances for subscriptions, always procure a draft on New York, or a *Postoffice Money Order*, if possible. Where neither of these can be procured, send the money, *but in a Registered letter.* The present registration system has been found by the postal authorities to be virtually an absolute protection against losses by mail. *All* Postmasters are obliged to register letters whenever requested to do so.

The Picture of Humboldt.—We are now sending out the picture promised to our single subscribers for 1870, who send directly to the publishers $2. Lest there be a misunderstanding on the part of some, we state distinctly that those who take THE HERALD at club rates will not be entitled to it. The way to secure the picture is to send your money direct to the Publishers.

Home Treatment.—Invalids wishing prescriptions for home treatment can have them for Five Dollars. They should send full particulars of their cases. Any person sending five new subscribers to THE HERALD OF HEALTH and Ten Dollars, will, if he does not choose other premiums, be entitled to a prescription for treatment free.

Wanted.—Will our readers please send us brief items of news and experience referring to Health and Physical Culture topics. Make them pointed and practical, and we will publish them for the benefit of others. Do not mix them up with business or personal matters, but on separate sheets of paper and in readiness for the Printer.

Caution.—Our friends in writing to us will please be very particular and give Postoffice, County and State with every letter, and not depend on us to remember where they live, though they may have told us a hundred times. Those who think we can turn to our books and find their names and address without trouble, are quite mistaken.

Elizabeth P. Peabody's Opinion of THE HERALD OF HEALTH.—I do not know how many new subscribers you get, but I do know you have no more faithful canvasser than I, who exhorts all my acquaintances, old and new, to subscribe to THE HERALD OF HEALTH, as the most useful monthly visitor that can come into a family, whether moral or mental or physical health is the question.

Clubs of Twenty-five.—Any person who will send us at one time twenty-five new subscribers to this monthly, shall have them for Twenty-five Dollars. Remember they must be new subscribers, and all be sent at one time.

Notice to Our Correspondents.—The following hints to correspondents should be observed in writing to us:

1. ALWAYS attach name, Post Office, County, and State to your letter.
2. SEND MONEY by Check on New York, or by Postoffice Money Order. If this is impossible, inclose Bills and register Letter.
3. CANADA AND NEW YORK CITY SUBSCRIBERS should send 12 *cents extra*, with which to prepay postage on subscriptions to THE HERALD OF HEALTH.
4. REMEMBER, if you are entitled to a Premium, to order it when you send the Club, and inform us how it is to be sent.
5. REMEMBER THAT WE NOW GIVE the *Empire Sewing Machine* as a premium. It is guaranteed to give good satisfaction.
6. REMEMBER TO SEND in Clubs early.
7. REMEMBER TO LOOK at our Premium List and Book List, and see exactly what we give and have for sale.
8. REMEMBER that for the names and addresses of 25 persons, either invalids or friends of Temperance and Health Reform, we give Prof. Wilson's book on the Turkish Bath. It contains 72 pages.
9. STAMPS should be sent to prepay postage on letters that require an answer.
10. Those who want a good *Spirometer*, *Parlor Gymnasium*, or *Filter* for making their water clean, will find the prices in another column.
11. INVALIDS from all parts of the country are invited to write to us for our circular, and full particulars as to Treatment or Board in the Hygienic Institution, See advertisement elsewhere.
12. See List of Books elsewhere.

Job Printing.—We are prepared to execute in neat, substantial styles, various kinds of JOB PRINTING: such as Pamphlets, Circulars, Envelopes, Billheads, Letter-heads, Cards, Labels, Small Handbills, etc., at the same rates as in all first-class New York printing establishments. Stereotype work done to order.

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PROF. F. G. WELCH,

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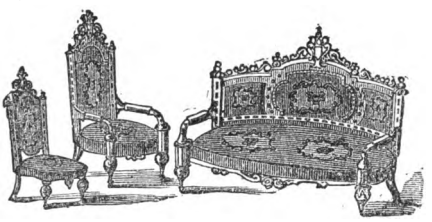

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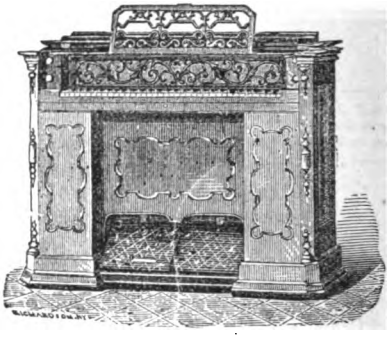

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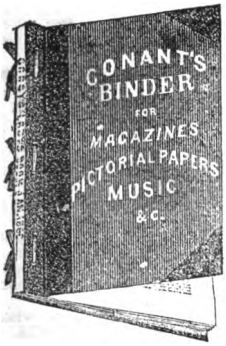

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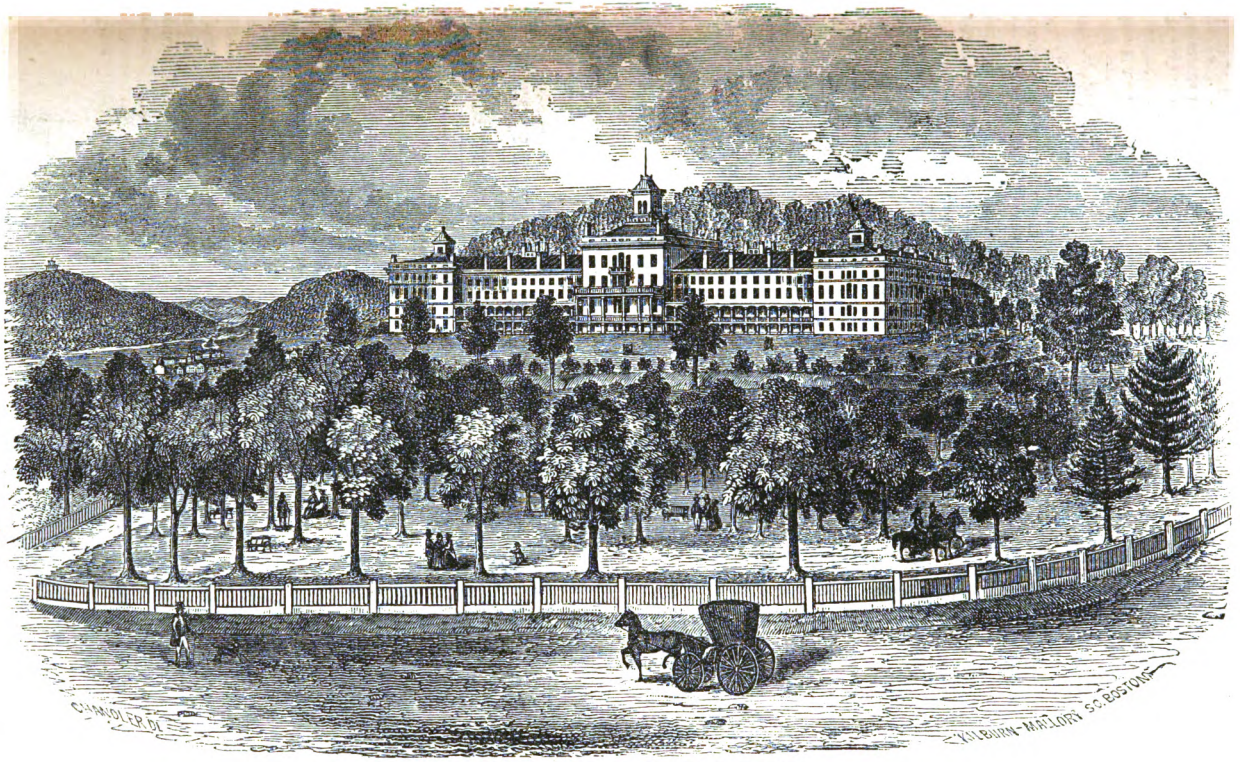

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