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THE UNITED COMMUNITIES.

ONEIDA COMMUNITY

Is an association living in Lenox, Madison Co., N. Y., four miles south of Oneida and a few rods from the Depot of the Midland Railroad. Number of members, 205. Land, 654 acres. Business, Manufacture of Hardware and Silk goods, Printing the CIRCULAR, Horticulture, &c. Theology, Perfectionism. Sociology, Bible Communism.

WILLOW-PLACE COMMUNITY.

Branch of O. C., on a detached portion of the domain, about one and one-fourth miles north of O. C. Number of members, 19. Business, Manufactures.

WALLINGFORD COMMUNITY.

Branch of O. C., at Wallingford, Conn., one mile west of the Hartford and New Haven Railroad. Number of members, 45. Land, 228 acres. Business, Publishing, Job Printing, Manufactures, and Horticulture.

SPECIAL NOTICE.

The O. C. and Branches are not "Free Lovers," in the popular sense of the term. They call their social system BIBLE COMMUNISM or COMPLEX MARRIAGE, and hold to freedom of love only within their own families, subject to Free Criticism and the principles of Male Continence. In respect to permanency, responsibility, and every essential point of difference between marriage and licentiousness, the Oneida Communists stand with marriage. Free Love with them does not mean freedom to love to-day and leave to-morrow; nor freedom to take a woman's person and keep their property to themselves; nor freedom to freight a woman with offspring and send her down stream without care or help; nor freedom to beget children and leave them to the street and the poor-house. Their Communities are families, as distinctly bounded and separated from promiscuous society as ordinary households. The tie that binds them together is as permanent and sacred, to say the least, as that of marriage, for it is their religion. They receive no new members (except by deception or mistake), who do not give heart and hand to the family interest for life and forever. Community of property extends just as far as freedom of love. Every man's care and every dollar of the common property are pledged for the maintenance and protection of the women and children of the Community.

ADMISSIONS.

These Communities are constantly receiving applications for admission which they have to reject. It is difficult to state in any brief way all their reasons for thus limiting their numbers; but some of them are these: 1. The parent Community at Oneida is full. Its buildings are adapted to a certain number, and it wants no more. 2. The Branch-Communities, though they have not attained the normal size, have as many members as they can well accommodate, and must grow in numbers only as they grow in capital and buildings. 3. The kind of men and women who are likely to make the Communities grow, spiritually and financially, are scarce, and have to be sifted out slowly and cautiously. It should be distinctly understood that these Communities are not asylums for pleasure seekers or persons who merely want a home and a living. They will receive only those who are very much in earnest in religion. They have already done their full share of labor in criticizing and working over raw recruits, and intend hereafter to devote themselves to other jobs (a plenty of which they have on hand), receiving only such members as seem likely to help and not hinder their work. As candidates for Communism multiply, it is obvious that they cannot all settle at Oneida and Wallingford. Other Communities must be formed; and the best way for earnest disciples generally is to work and wait, till the Spirit of Pentecost shall come on their neighbors, and give them Communities right where they are.

THE LIMITS OF THE KNOWABLE.

Home-Talk by J. H. N.

SEVERAL of the later philosophers of the materialistic school have undertaken to lay down the law on the possibilities of scientific attainment, and to declare in general what can be known of the universe and what cannot. The conclusion of their teaching is, that there is a fixed limit to the reach of the human mind; that within this limit everybody can learn the truth of things who will take the necessary pains to do so; but that beyond this certain boundary nobody can go. More specifically, they affirm that all we can do in our investigation of nature is to record facts; and that of causes in their subtler forms we can know nothing.

I venture to propose a different theory of the limitations of human knowledge. Our relations to the universe, and the acquisition of truth about it, seem to me capable of being represented by a familiar illustration.

Suppose the case of a fine house, the owner of which dwells in it with his family. Now a stranger standing outside may undertake to investigate the house, and he may actually learn many things about its exterior. He can see how many stories it has, how many windows it has, and what its style of architecture is; but he cannot, without asking permission of the owner, go inside and examine the interior arrangements of the house, or learn the habits of the family.

I regard that as a fair illustration of our relations to the great whole of truth. The popular doctrine that nature is open to universal investigation and invites everybody to find out all about her, is true of the externals of her domain, and no more. While there is a department of truth that is open to everybody, as there would be in the supposed case of the house, yet this department is but a superficial one; and the part of truth which is infinitely the most important—that relating to God and the beings who are at the center of the vitality of the universe—is not accessible to the merely scientific mind. It cannot be got at by mere painstaking investigation. It cannot be attained without asking leave. God has the same right to privacy that any other living being has. A man would resent it as an intrusion if a person should undertake to go into his personal secrecy without leave; and if man can protect himself from such intrusions, God certainly can do as much.

Concerning, therefore, the most important and largest department of truth in the universe, it takes two to make a bargain. Interior truth can be got at only by asking and obtaining leave; only by establishing personal relations with the party who lives in it and owns it. If we choose a superficial education, we can go to

work as scientific people do, and be content with undertaking to force nature to yield up her secrets. That process will give us a diploma at the schools; but a thorough education can hardly be got by that method. The secrets that are in possession of the rocks, the earth, the stars and the chemical materials, you can get by grasping and squeezing; but you cannot get secrets out of living beings in that way. You cannot squeeze angels as you would an orange. You can obtain knowledge of them only by being a righteous man and suiting the temper of heaven.

My conclusion about the accessibility of truth is, that it is subject to no such fixed limitations in the human mind as the philosophers set up. While certain strata of truth lie on the surface and are open to all, the most important region of truth is not on the surface, but is accessible or not accessible, according as persons secure, or fail to secure, the key to it; and that key is a true social relation with God.

THE TWO PRINCIPALITIES.

[Selected from G. W. N.'s Writings.]

WE perceive clearly that the dealing of our life is not with flesh and blood, but with principalities and powers. There are radically but two of these, flowing from eternally opposite sources; and we in the world lay in the point of conflict between them. All our experience, and in fact the whole movement of the world, is to be referred to the influence of these opposing spiritual powers. They may be variously described, as good and evil, interior and exterior, light and darkness, life and death, etc. They are distinguished in Scripture as belonging, one to this world, and the other to heaven. These are the general terms of difference; a more specially descriptive difference is, that one is the principality of unity and public interest, the other of separation and selfish interest. If we would escape torment and ultimate hell, we must get clear of private interests. If we would come into the eternal harmonies, and dwell in the city of our God, we must become identified with the principality of love. The spirit of Jesus Christ, who sought not his own, who "for our sakes became poor," who washed his disciples' feet, and finally died for those he had chosen, is the only spirit of salvation. We are called to the peace of God, not as separate beings, but "in one body." A confession of Christ puts us in communication with this spirit, and gives it the advantage over us. We may further promote its influence, by voluntary action and testimony which shall open us to its sympathy and possession. Whatever may be the distress of our situation, internally or externally, we may rise into life and peace, by

withdrawing into the sphere of universal good. There is such a spirit not far from every one of us; it is the interior of all things, and is always triumphant. The Community of heaven, the oneness of the Father, Son, and glorified church, is the ascending and ascendant power of the universe. It was never beaten—it never will be; but is steadily moving on to the conquest of the world and the destruction of selfishness and death. All suffering belongs to the sphere of private interest; and should lead us to lose ourselves in the interior unity, where life and gladness eternally reign.

SPECIAL PROVIDENCES.

THE Bible is full of accounts of providential events. God's dealings with mankind in general and his children in particular are therein portrayed that we may learn of his wisdom and goodness. But in these latter days the world as a whole make little note of God's special providences. The popular opinion is that "the age of miracles is past," and that God is so far above mankind that he does not condescend to notice the affairs of our every-day life, the saying of Christ, that not a sparrow falls to the ground without his notice, to the contrary notwithstanding. We are continually surrounded with good and evil providences. The latter are already sufficiently noticed and recorded—so much so that we experience a reaction in favor of good providences. We delight to watch for these and recount them. Indeed, a great part of our religion consists in the recognition that we are not alone; that some one wiser and better than ourselves arranges our circumstances and gives us the help and care we need. We increase our knowledge of his character by noticing the providences of God. Such observation has led us to conclude that he is full of wit and romance as well as wisdom and goodness. He surrounds us with circumstances which in their arrangement reveal the hand of an artist far more skillful than that of any novelist; and as we study that arrangement we shall more and more admire it, and more and more love its author and seek assimilation to him.

H. A. N.

"PRAY WITHOUT CEASING."

PAUL exhorts the Thessalonians to "pray without ceasing." This implies that there is an attitude of heart in which it is easy to pray under all circumstances. I find myself in a true attitude of prayer when I have a soft heart. Then it seems as natural to pray as it does to breathe. By prayer in this sense I do not mean a form of words or asking for special things, but the pouring out of the heart to God in a spontaneous way that keeps a current of life flowing through the heart from God, and governs almost unconsciously every action of our lives. I find that when I have a soft heart, that with the desire to do anything comes the desire to ask God about it. If I follow the instinct he gives me in answer to my involuntary prayer, I am conscious of a feeling of happiness in doing or not doing as the case may be, that leaves me perfectly at rest afterwards. The assurance that God sees

the end, and will work all things for good, frees me entirely from any feeling of anxiety as to the result; and the peace of heart that comes from waiting patiently on God is worth more than the gratification of any wish, however desirable it may seem in itself.

S. L. N.

SPIRITUAL CHROMATICS.

ONE of the facts connected with chromatics is, that every color has its accidental or complementary color: e. g., the accidental color of *orange* is *blue*. When we look long at any color, and then turn our eyes aside, for a moment everything is tinged with the accidental color of that at which we have been looking. This accidental color is always the color which, if combined with the first color gazed upon, would make up the white light. The phenomenon of the tinging effect of the accidental color is of short duration. After our eyes have been long turned from the object causing the phenomenon, the tinge disappears and everything assumes its ordinary hue.

It has occurred to me that in the life of the Christian, the pleasure which comes from pleasing God and those around him, might be called *orange*; that which comes from being pleased, *blue*; while the combination of both—perfect happiness—may be called the *white light*. Then if his eye is often and earnestly fixed on the idea of pleasing God and his associates, his reward will be that everything with which he comes in contact will be tinged with glorious blue—as he has pleased, so shall he be pleased—and the two colors combined in his heart will fill it with the white light of perfect happiness.

This is perhaps the philosophy of Christ's words, "Seek first the kingdom of God, and his righteousness, and all these things shall be added unto you."

A. E. H.

THE FAMILISTÈRE.

WE are indebted to the April number of *Harper's Magazine* for the description which we have condensed below of the Social Palace at Guise, France.

M. Godin, the owner and builder of the Familistère, has reared a structure for the habitation of nine hundred workmen, who earn their daily bread by labor in his iron-foundry. The plot of ground occupied by the Familistère and its dependencies consists of about eighteen acres, and is divided into two parts by the river Oise, which flows in a winding course through the grounds. The Familistère is upon one side of the stream, and the foundry upon the other, the two being connected by a bridge. The general plan of the Familistère comprises three chief buildings united together. Each of these buildings incloses a central court, which is covered at the roof with glass, and each of them is four stories high. A gallery for each story runs around the central courts, and from these access is had to the various apartments. The stairways are placed in the corners of the buildings. The courts are paved with cement, and there are various passages connecting the three buildings, so that communication with any part of the entire palace is quite direct and easy. The entire structure is built of brick, and division walls, at regular distances of thirty feet, run from the foundation to the roof, as a protection from the spreading of fire in case of such an accident.

The accommodations afforded by the Familistère, if arranged as villages usually are, would spread the population, which is now brought together in a sympathetic union, over a space of a mile or two square. Fifteen hundred persons are here enabled to see one another, to visit, attend to their domestic duties, meet in public, or purchase their supplies, without going from under cover, and regardless of the weather.

In the lower story of the Familistère are the shops of various kinds necessary to supply the wants of the inhabitants. The supplies are bought at wholesale and sold at a small profit.

The Familistère has organized the conditions for the comfort and development of its children from their birth. It adopts all its orphans, and their support, until they are old enough to earn their own living, is assumed by the collective wealth of the association. There is nothing to prevent any mother from keeping her child in her own apartment if she chooses to do so; but the Familistère provides for it so much better conditions of comfort and happiness that there is no danger that any mother will refuse to allow her child to enjoy them. The course of education for children is divided into seven classes. First, there is the nursery for the babies, from birth to twenty-six or twenty-eight months. Second, the *pouponnat*, for children who can walk to those of four years of age. Third, the *bambinat*, for children from four to six. Fourth, the primary school, for pupils from six to eight. Fifth, the second class, for pupils from eight to ten. Sixth, the first class, for pupils from ten to thirteen. Seventh, the upper course, for pupils who have shown themselves fitted for it by their intelligence and application. Finally, there is a system of apprenticeship, where the young begin to take part in productive industry and are taught gratuitously the various arts which are carried on in the Familistère.

The average number of children in the various departments reaches about 320, and the expense incurred in caring for them is about \$4,000 a year. In the nursery there is an average of about forty babies, and the cost of the department is about \$2,000, which includes food and all other necessary supplies; for the larger children only the educational expenses are included in the above estimate.

The nursery will accommodate 50 infants besides the nurses' beds, and is provided with ample closets, a kitchen, water-closets, baths and other offices. It is warmed, lighted all night, supplied with water, and well ventilated. The infants sleep in beds of a peculiar construction, which have been found after numerous experiments to be the best. The cradle they use is a stout iron wire bent in the form of an oval. This is supported upon an iron stand at the head and foot. To the oval wire a thick cloth is laced, which forms the bed. Upon this cloth is spread three or four inches of bran, and upon a cloth covering this the child sleeps. This bran mattress is not penetrated by wet. When the child wakes the dampened bran is easily removed, and fresh bran put in its place.

The children are never rocked to sleep. "It is a pleasure," writes M. Godin, "to see them put to bed awake like grown persons, and go to sleep without crying, and wake up in the same way."

The system of education is described as object teaching. The works of Madame Carpentier and Froebel have been used.

Besides the material advantages which the arrangement of the Familistère offers to its inhabitants, its theater and library, its gardens and groves, its choral society and orchestra, its fêtes and other entertainments, all concur in affording such opportunities for social culture as are not

within the reach even of the rich in the ordinary conditions of isolated life.

An officer, entitled the Economist, buys the provisions and necessary supplies of all kinds, and, with the aid of those attached to the various shops, sees that the quality and quantity are honestly delivered.

M. Godin's son has been his chief aid in the enterprise, and his daughter is one of the principal promoters of its educational spirit, taking a practical part in its admirable organization. M. Godin's family live in the Familistère.

The following answer is made to the question, "Does it pay?" The total cost for the buildings was \$200,000; for furniture and other material \$200,000 more, making the capital invested, say, \$400,000. The rents charged vary from three to five cents a day for each chamber, according to location. From these the gross income is about \$8,000. From this amount about \$2,000 is deducted for general expenses—gas, repairs, etc.—leaving about \$6,000 income from this source, which is about three per cent. upon the capital employed in the building. From the commerce carried on in supplying the population, after paying expenses there remains a profit of about \$9,000 a year. Of this a reserve fund of \$2,000 is put by, leaving \$7,000 which, with the \$6,000 makes a profit of \$13,000 a year, or six per cent. upon the capital invested in the building. J. B. H.

THE VIOLIN.

VII.

BY F. W. S.

THE earliest makers of violins of whose work specimens still exist were Pietro Dardelli of Mantua, about 1500, and Gaspard Duiffoprugcar, who was born in the Tyrol, and settled in Bologna in 1510. These two seem to have been the immediate forerunners of the grand old school of violin makers which centered in Cremona, Italy. Who has not heard of the old Cremona violins! Their fame has extended over the world, and every year adds to their value. For many years they have been eagerly sought after, and rich connoisseurs do not hesitate to pay princely sums to become their possessors. The most famous makers of that old time, the men who made the most valuable violins the world has ever seen, were *Gaspar Di Salo* of Brescia, who dates from 1560 to 1610; the wonderful *Amati* family, who made violins from about 1550 to 1680 at Cremona; *Antonius Stradiarius* of Cremona who lived from 1644 to 1737, and, most celebrated perhaps of all, the *Guarnerius* family, contemporaneous with Stradiarius. Many other famous makers have lived, but all, even their own pupils, were inferior to these. No violins have yet been produced equal to theirs, either for beauty of form and finish or for strength and sweetness of tone.

A few weeks ago the writer, in company with a friend, had the rare pleasure of seeing and listening to several of the very best instruments now existing by those old makers. They are the property of Mr. John P. Waters, a rich and enthusiastic connoisseur of violins living in Brooklyn, who very courteously invited us to call at his house and inspect his instruments.

First was shown us an Amati violin of what is called the "grand pattern." Rather large and of very full width, it was yet gracefully modeled, and very sweet and powerful in tone. I do not remember its value. Next we saw and heard two violins whose fame has made them historical. They were both made by Joseph Guarnerius. The first is called the "Red Guarnerius," and was bought in London from the collection of the late Charles Plowden, Esq., for the sum of £450. The second is called, from its beautiful model, varnish, and its perfect preservation, the "King Joseph Guarnerius."

It was bought from the same collection for £700, which is the largest sum ever known to have been paid for a violin. Both these instruments have the beautiful old amber varnish, exceedingly hard, yet appearing to the eye like a yellowish satin. They have been preserved during these hundred and fifty years without any cracks or serious scratches; and now, when not in use, they repose in costly cases of rare woods lined with soft plush, being first completely swathed in delicate silk wraps. They could not be more carefully tended were they diamonds of the same size. None beside the owner and the most celebrated virtuosi, like Vieuxtemps and Ole Bull, may touch them. We saw also a beautiful Violoncello by Grimm of Berlin, and a curious little old violin which George the fourth played on or tried to play on, when he was the boy-Prince of Wales. Still another instrument which attracted our notice was a violin supposed to have been made by Gaspar Di Salo or one of his pupils. It is of that school, and was made before any tools had been invented for cutting the groove for the purfling, which is very clumsily put in, being in short, straightish pieces with frequent breaks. It was lately brought over from Europe, and although it had about half an inch of accumulated dust in it, after undergoing thorough repairs it was found to possess a very good tone, in spite of its nearly three hundred years of use, abuse, and neglect.

These beautiful old instruments brought to mind tales which we read and dreamed about when we were boys, learning to play on a terribly bad "fiddle" made by a house-carpenter; tales of sweet-toned Cremona violins which hung unused upon the walls of old convents in Europe, and which could not be bought for any price. How we did wish we could get one of them, and how unfair it seemed to have them hang on those old walls unused, when we wanted them so much! No wonder that we were pleased now that we saw and heard some of the very best of those genuine old Cremona violins.

There is an old engraving occasionally to be found which represents Stradiarius engaged in making a violin in his little workshop in Cremona. He is not hard at work with a chisel or plane, as you might imagine he would be, but sits near a small table covered with tools and rough pieces, and holds in his hands an unfinished violin over which he is evidently reflecting deeply. The picture is very interesting, and impresses you with the great earnestness with which those old makers must have studied their art. They studied and experimented until they found that Tyrolese deal was the best wood for the sounding-board or belly of the violin; sycamore or maple for the sides and back; and that the wood on the sunny side of a tree was better than that on the shady side. They elaborated the instrument until, when complete, it consisted, as at the present day, of fifty-eight different pieces or parts. They discovered the mathematical rules which should govern the thicknesses of the various parts to give the most powerful and free vibrations. They made a beautiful varnish which has never since been excelled. In short, so far as it has yet been done, they perfected the instrument.

As we have said, these old Cremona makers have had a host of imitators who have sought by the most ingenious ways to equal their tone. For one thing some have used what they call "prepared wood," i. e., wood which has been "kiln-dried," either by heat or chemicals. Vuillaume, of Paris, has achieved something of a reputation in this way. His instruments have a tolerably smooth tone when first made, but do not improve by use, and the tone has not so rich a quality as the genuine old instruments. The Cremona makers used fresh wood, full of life and strength, and

time alone has ripened it so as to produce that wonderful tone.

"MY SUMMER IN A GARDEN."

WE have a little book lying on our table, daintily bound in green and gold, and funnily illustrated. It was sent to H. A. N. by a friend. It is—"My Summer in a Garden." It has an introductory letter by Henry Ward Beecher. We are glad he wrote it and lingered over it pleasantly; for it is not at all the thing which he says introductions are apt to be—"A sort of pilaster, put upon the face of a building for look's sake, and usually flat"—very flat—or a pillar such as one may see in Baalbec, standing up in the air all alone, with nothing on it, and with nothing for it to do."

The book is one to catch up if you have five minutes to spare; full of spicy summer thoughts, it afforded us many a half hour of quiet delight and amusement in the winter days when gardens were possibilities in the future, hidden 'neath snow and ice. There is scarcely a line but is mirth-provoking—such moral reflections and sly hits—here perhaps at politics, and there at one and another of the great questions with which the public mind is burdened. A garden with the author isn't a patch of earth just to raise crops of potatoes, corn, etc., in, to feed himself and pig, but a place from which he shall bring forth moral crops, to feed his fellow-men. That shows his unselfishness. We will let him speak for himself:

"The principal value of a private garden is not understood. It is not to give the possessor vegetables and fruit [that can be better and cheaper done by the market-gardeners], but to teach him patience and philosophy, and the higher virtues—hope deferred, and expectation blighted, leading directly to resignation, and sometimes to alienation. The garden thus becomes a moral agent, a test of character, as it was in the beginning. I shall keep this central truth in mind in these articles. I mean to have a moral garden, if not a productive one—one that shall teach, O my brother! O my sister! the great lessons of life."

The first pleasant thing our author discovers about a garden is, that in this variable climate you never know when to set it going. You are in a strait whether to put in your seeds early, and trust to the tender mercies of the frost—which you know from experience to be cruel—or to put them in late, and allow Jones to enjoy his early peas while you are watching your slow-forming pods. "Your spring is passed in anxious doubts and fears which are usually realized; and so a great moral discipline is worked out for you."

On the 18th of May we find him hoeing his corn for the first time, when Polly—his help-meet, we suppose—comes out to look at the Lima beans:

"She seemed to think the poles had come up beautifully. I thought they did look well; they are a fine set of poles, large, and well grown, and stand straight. They were inexpensive too. The cheapness came about from my cutting them on another man's land, and he did not know it. I have not examined this transaction in the moral light of gardening; but I know that people in this country take great liberties at the polls. Polly noticed that the beans had not themselves come up in any improper sense, but that the dirt had got off from them, leaving them uncovered. She thought it would be well to sprinkle a slight layer of dirt over them; and I indulgently consented. It occurred to me, when she had gone, that beans always come up that way—wrong end first; and that what they wanted was light, and not dirt.

"Observation.—Woman always did, from the first, make a muss in a garden."

Our author's next trouble, after deciding when to start his garden, was what to put in it. Here he shows his unselfishness again, for he says: "A man ought not to please himself, but every man to please his neighbors. I tried to have a garden that would give general moral satisfaction." He

began to plant potatoes freely, thinking no one could object to such a useful vegetable. Immediately there was a chorus of protests; the neighbors said, "You can buy potatoes: what you want is the perishable things that you cannot get fresh in the market." An eminent horticulturist would have him fill his garden with strawberries and raspberries. One friend tells him that "melons never ripen in this climate;" another, "Ah, I see you are going to have melons. They are the most grateful things we have on the table." "There was no compromise: it was melons or no melons, and some one offended in any case. I half resolved to plant them a little late, so that they would, and they would'nt." Upon this he moralizes:

"I have pretty much come to the conclusion that you have got to put your foot down in gardening. If I had actually taken counsel of my friends, I should not have had a thing growing in the garden to-day but weeds. And, besides, while you are waiting, Nature does not wait. Her mind is made up. She knows just what she will raise, and she has an infinite variety of early and late. The most humiliating thing about a garden is that it teaches the inferiority of man. Nature is prompt, decided, inexhaustible. She thrusts up her plants with a vigor and freedom that I admire; and the more worthless the plant the more splendid and rapid its growth. She is at it early and late, and all night; never tiring, never showing the least signs of exhaustion."

DUET.

Wallingford Community.

ONEIDA CIRCULAR.

WM. A. HINDS, EDITOR.

MONDAY, APRIL 29, 1872.

We gave last week the *Tribune's* report of the decision of the United States Supreme court in a case involving the question of the legality of the methods pursued against the Mormons in the territorial Court of Utah under the ruling of Judge McKean. It will be recollected that that decision makes void all criminal proceedings in Judge McKean's court for the past year, discharges one hundred and thirty-eight prisoners who have been illegally held at an expense of some \$40,000, and also annuls all decisions which have been made during the same time in civil cases in which exceptions were taken to the legality of the juries. This result should have been hailed with joy by all law abiding citizens; for however much they may dislike Mormon theories and practices, it is to be presumed that they would not willingly see the polygamists put down by illegal methods; and especially should those who claim to represent the religious sentiment of the country rejoice that Judge McKean has been estopped. With this thought in mind we open the journal which claims to be the largest and most widely circulated of all the religious journals published in this country—the *New York Independent*—and read:

There is no appeal from the Supreme Court; but we must express our disappointment if the only way yet discovered to reach the Mormon polygamists and murderers, and the only men in earnest to punish them, have been defeated by the decision read last Monday by the Chief Justice. Laws, territorial or congressional, are of no use so long as juries are drawn from those in sympathy with the breach of the law. But if Judge McKean's juries are illegal, as has been decided, we have no resource left but to send missionaries to Utah to convert Brigham Young and his harem of voters. Where is the Zenana Mission?

We cannot say how this paragraph will strike others, but we are free to confess that, considering its source and the occasion, it appears to us remarkable. As we read it, it amounts to simply this: "We are very sorry that we have been defeated in doing wrong, and now all that remains for us is to do right. This is too bad, but it can't

be helped." Look at it again; there is a confession of past wrong-doing, but not a word of regret for it—its only regret is that it has been detected and defeated in illegality, and that in the future it will be compelled to limit itself to measures that are not illegal; and, besides, in the same breath in which it expresses its sympathy with the past illegal proceedings of Judge McKean & Co., it has the innocence to declaim against "those in sympathy with the breach of the law!" In the name of common sense we beg to ask why "sympathy with the breach of the law" is any more commendable in those for whom the *Independent* claims to speak than it is in the Mormons themselves. Does the *Independent* wish to class itself among those who say, "Let us do evil that good may come?"

The newspapers generally (to their credit be it said) observe a discreet silence on the decision, if their antipathies to the Mormons do not allow them to express any gratification at the termination of illegal proceedings against them. Among those which are free to say what they think, the *Nation* is to be counted. It says:

The brief history of the Mormon troubles, now just brought to an end by a decision of Chief-Justice Chase's, appears to be pretty much as follows. A year or so ago, Dr. J. P. Newman, a Methodist clergyman of Washington City, went out to Utah on the profitable errand of having a grand discussion of polygamy and its Biblical warranty, he to be on one side with his more or less profound erudition, and such eminent Hebraists as Pratt and Orson Hyde on the other. Whatever else this valuable conference accomplished, it determined Dr. Newman to encourage a crusade against the Mormons, and to this end he instigated the President to authorize their prosecution and to pursue them by all means available, and, as now appears from the Chief-Justice's decision, by means as illegal and regardless of law as any that could well be thought of. The principal instrument of this prosecution was Judge McKean, an enthusiastic Methodist, who went out to Utah not to do his work as a judge, but to root wickedness out of the land and crusade against polygamy. He is ignorant of law, somewhat feather-headed, and as much out of place in a court of justice, where he sat on the bench delivering stump speeches, as any man well could be anywhere in the world. Judge McKean perceived that he could do nothing unless he could erect his Territorial court into a United States Court, and this he proceeded to do. Why he did not declare himself to be the Federal Executive and Legislature, and proceed to levy troops and make war upon the Territorial government, is to be explained by prudential reasons, we suppose; as for color of law, he had as good right to do that as he had to do what he did. The law, as again and again enounced by the Supreme Court, is that such courts as his are not United States courts, except for certain specific purposes, and that they never can be United States courts for the enforcement of a Territorial statute, which is in no sense a law of Congress, and which a Territorial court must enforce. It must enforce it, too, by means of its own Territorial officers. What McKean did was to make his court a United States court when it was not; to enforce in it Territorial statutes which, had his court really been a United States court, would have had no place in it; to mix with these laws of Congress; and for executing the processes of this hybrid tribunal, to use not constables and sheriffs of the Territory, but United States marshals, and this because by their assistance grand and petty jurors pledged to indictment and conviction could be secured.

All this was done not in a corner, but against the reiterated appeals of the United States District Attorney, who insisted upon the foolish and lawless violence of the whole proceeding. It was done, nevertheless, till now the Chief-Justice brings McKean up with a very round turn, declaring that for a twelve month past the Territorial court has been committing monstrous judicial usurpations and trampling on law. This decision will at once release 133 persons from illegal arrest or imprisonment. The position was a delicate one for the Administration. It was indeed between the devil and the deep sea. On the one hand, it had to adopt and sanction the grossest illegality; on the other, it had to offend—or fancied it had to offend—the Methodist denomination, which it appears to

have paid the compliment of presuming to be less regardful of the authority of the law than most of the Methodists' fellow-citizens suppose them. The Chief-Justice has relieved it from this embarrassment, for Dr. Newman himself will not now ask the President to go on further in Judge McKean's direction.

The Japanese Embassy having expressed a desire for a succinct statement of the American system of public instruction, Prof. Gilman of Yale College drafted a document, which, as amended by other eminent teachers, has been subscribed to by twenty Presidents of Colleges and Universities, twenty-three Superintendents of Public School Instruction, representing twenty different States, five United States Senators, two Representatives, two Governors and three ex-Governors, and others. The statement includes nine propositions:

1. That education is universal, and chiefly supported by voluntary taxation.
2. That the principles of education recognized by the New England settlers two centuries and a half ago are still approved in the older portions of the country, and adopted in every new State and Territory.
3. That it is generally understood and conceded that education fosters virtue, while ignorance tends to vice.
4. That universal education cannot be secured without aid from the State.
5. That the common schools are free, are open to all, and give moral, not sectarian lessons; the Bible being generally read in schools as the basis of morality.
6. That private schools are allowed and protected by law.
7. That special schools are provided for special cases, as evening schools, truant schools, drawing schools, industrial schools, etc.
8. That in school matters, as in other public business, the responsibilities are distributed and are brought as much as possible to the people.
9. That institutions of the higher classes, such as colleges, schools of science, etc., are essential to the welfare of the land, and are everywhere protected and encouraged by favorable laws and charters.

Henry Ward Beecher has addressed a very large audience in Cooper Institute, New York city, in favor of opening the public libraries on Sunday. He would make the day the servant of man more fully than it now is, in every way in which it can minister to his highest welfare, and urges church attendance, opening the libraries, running the cars for the benefit of the poor, and that excursions and social entertainment should be regarded with favor. Among the old Jews, though the Sabbath was strictly a day of rest from labor, it was the one jovial, cheerful day of the week.

The *National School Festival* is the name of a small quarterly periodical published in Chicago by Alfred L. Sewell & Co. Dialogues on a variety of subjects, grave and gay, prose and poetry, mainly fill its pages. It will no doubt be a valuable aid to teachers in getting up school exhibitions, and is just the thing for those who delight in parlor amusements of the dramatic kind. Some of the dialogues evince genuine ability both in style and matter. The publisher suffered a loss in the Chicago fire of all the property he had accumulated in seventeen years of editorial life, and we wish him success in his present undertaking.

We learn that the Hon. S. T. Holmes (long a resident of the neighboring town of Morrisville and recently a law partner of the Hon. Roscoe Conkling of Utica) has removed to Bay City,

Michigan, and has already opened a law office there. We can hardly allow the occasion to pass without expressing our high appreciation of Mr. Holmes. Our acquaintance with him covers a period of twenty years, a portion of which time he discharged the duties of County Judge; and we are glad of the present opportunity to say that it has never been our fortune to find a more candid, upright, impartial magistrate. Success to him in the new field he has chosen.

COMMUNITY JOURNAL.

ONEIDA.

—The gardeners are engaged just now in taking the winter covering of straw from the strawberry plants. The poor things look as if they had had a long sleep and a hard one. Many of them have slept their last sleep apparently; yet the gardeners seem to feel hopeful about them.

—An item of interest the past week has been the appearance on our grounds of a transit party engaged in making another survey for the New York, West Side & Chicago Railroad. The prospect now is that the road, striking our land at a point a little to the north of the old mill, will cross the creek and Midland railroad on an iron viaduct of dizzy height, a few rods south of the Community dwellings, run just south of the Midland depot, but so close to it as to necessitate its removal, and then stretch away to the northwest hills. The problem of how they should get across this valley is said to have been the most difficult one in an engineering point of view that the Company had to solve.

—Various rumors have recently been afloat in this vicinity to the effect that the O. C. intends to establish a silk-factory at the village of Oneida. One story was that the Midland Railroad Company had offered to sell to the Community at cost its new and as yet unused brick depot at Oneida, if we would start in it the manufacture of silk. The story has even made the Community accept the offer; and so generally was it credited that a resident of Oneida came up to the Willow-Place Works and endeavored to persuade our people, before closing the bargain with the Midland Company, to look at a building of his which he considered more suitable for our purpose. Of course, these reports are utterly unfounded. What could have put them in circulation we are at a loss to imagine. The Community certainly has no present intention of starting the manufacture of silk either at or near Oneida.

April 21.—We must not neglect to say a word in praise of the weather to-day. Some persons would characterize it as "just splendid." The genial sunshine and balmy air are so charming that one can hardly resist going out on the lawn to enjoy them, and to take in Nature's fullness, which is just now beginning to burst forth all around us in bud and flower.

—A company of the older boys, eight or ten of them harnessed together, find fun in drawing the heavy stone-roller over such portions of the grounds as require its service. Eugene, a stubby little five-year old, is the smallest that takes part in this exercise. As he and little Deming were together, Portia asked the latter if he helped draw the roller, when Eugene promptly answered for him—"No; he aint big enough; he don't know enough! When we say 'Gee,' he goes the way he should when we say 'Haw.'"

—As our well known contributor "A. E." was showing our collection of curiosities to a company of young engineers a few days since, one of the party observed a silver goblet, bearing the inscription, "Won at a Regatta on the Thames by A. E." "Why," said he, turning to his guide, "is not your

name E." "Certainly" replied Mr. E. "Then you are the winner of this cup?" "I believe so," said E. modestly. "What race was this?" resumed his interrogator. E. explained. "I thought so," said the other, and continued, "I was present at that race, the 'stroke' oarsman of your opponents being a personal friend of mine." After such an introduction the two had an interesting time in reviving old boating scenes on the Thames.

—H. J. S. is one of our tree enthusiasts. His is an enthusiasm that never wanes; he never wearies of experiments to find out the best methods of culture. For years he has been at work on the problem, How can chestnuts, hickory-nuts, and hazel-nuts, be kept over winter in the best condition? His experiment the past winter was quite satisfactory; and is given by him as follows:

"Last fall I had about six quarts of fine large chestnuts and a few walnuts. Half of them I put into a bucket of moist sand as usual, but the other half I determined to experiment with. I had often picked up chestnuts in the spring from among the leaves that appeared as fresh as when they dropped from the trees. Following this clue, I leveled back the earth on a plowed field where there was no vegetation or covert to attract the mice. On this level plot I strewed a quantity of leaves. On these I deposited my chestnuts, not so close as to touch one another. On these I deposited more leaves, and top of the whole I put some boards to hold them down. Around the border I threw up some dirt to discourage any vagabond mouse that might chance to stray that way, and then left them with my blessing. The result was that when I examined my treasures about the twentieth of April, I found those in the bucket of sand were soft, brown, moldy and lifeless, as usual, while those under the leaves were as fresh and hard as ever; and where the spring warmth had come near them they were already sprouted. I mention these circumstances with the hope that others will be encouraged to try the experiment."

—The winter that is gone was not remarkable in this vicinity for great depth of snow on a level, but quite remarkable for drifts. Snow would come quietly down in the night, but on the morrow fierce winds would almost inevitably arise, as if in wrath, and send it whirling hither and yon, only to find peace at last by being piled up in great banks in sheltered places. It is not to be wondered at that this pleasant game between the wind and snow did not find much favor in the eyes of the railroad companies. Our neighbors of the Midland were put to considerable trouble to keep their track free from the effects of these frolics, and so with other railroads. Far to the north we heard of roads at times almost hopelessly blockaded. For ourselves we had most trouble from drifts on the road between O. C. and Willow Place. This road is lined on its west side for a great part of the way with board and picket fences, which have proved themselves to be most effective drift-makers. A barberry hedge, which bounds the road for some distance, also showed itself to have no mean capacity in this respect. The consequence was that the road, which is almost constantly traveled, became at times nearly impassable. The great drifts in some places piled themselves level with the tops of the fences. The cautious teamsters worked their way now over the tops of the drifts, then on their edges, and anon by the side of the road. But by means of careful driving all serious accidents were avoided, and the few tip-overs that did occur were rather enjoyed by those involved than otherwise. So extensive and firmly packed were the drifts aforesaid that they were among the last to resist the influences of Spring. However, they all finally disappeared, and the road is in good condition again. It is proposed to prevent, as far as practi-

cable, a repetition of this evil by replacing the objectionable fences on the windward side of the road with wire ones.

—How quick are children to imitate anything new that is going. Last summer the appearance on our grounds of the photographic artists with their instruments immediately created among the little folks quite a furor upon the subject of photography. Soon some of the most ingenious among them had contrived an arrangement which answered their purpose for a "camera," and they were forthwith absorbed in "taking views." About this time also, a juvenile band, in imitation of the large orchestra which played daily in the Hall, used to hold frequent sessions in the Children's house. Some time last fall a balloon, sent up at a neighboring fair, sailed by here high overhead. This incident occasioned quite an excitement among the little ones about balloons and ballooning. The latest occurrence of this nature which has come to our notice was on this wise. A short time since a transit party belonging to a newly projected railroad was engaged in running a trial line through our grounds. Of course the children were on the *qui vive*. A day or two after, as we were passing by the garden where a number of the children were at play, we overheard one of them call out to another in a tone of earnest remonstrance—"Say, Temple, Ransom Reid has got my best surveyor!"

—The true confession of Christ is a confession of his power as a Savior—a confession that he *does save*—not that he *will* save us from the punishment of sin, but that he *does* save us from sin. This confession is always in order in our evening meetings, and in fact it is more than half the business of these meetings. Here is confessed Christ's power to overcome habit, to overcome selfishness, to save from jealousy, to cleanse from the perilous stuff called envy, to soften the heart, and to fill it with love, joy, and peace. The more confidential experience is brought out in notes, or disclosed perhaps by some one to whom it has been imparted; all testimony to the work of Christ being thought the property of the public among us. A young man makes such a confession as this: He had the heart-ache about C. B. loves her, and he was afraid of being supplanted. His jealousy made him miserable, and separated him from B. and C. both; but he turned his thoughts to Christ and prayed for his spirit, and a new feeling flowed into his heart. All his chilliness was gone. He loved B., and was glad to have him love C., and hoped she would love him. Now his love for her made him happy. He had more torment than happiness when he wanted her all to himself, but now his happiness was doubled by sympathy with B. This we call a true confession of Christ. It is a confession of his power to save the world from its most deep-rooted evil—from that false action of passion which fills the great catalogue of crime. The social theory of the Community is one great confession of Christ.

WALLINGFORD.

—The great item of interest these days is the dam. Practical operations there are going forward famously. The engine has arrived and been set up, and the work of pile-driving commenced. Mr. McKenzie, a master-mason from Westfield, Mass., who is to have charge of the stone-work, has arrived, and will immediately procure a gang of men for the purpose of getting ready the stone for the wheelpit.

April 21.—Seventy-two piles have been driven thus far. Our pile-driver is greatly superior to the one used at Oneida in building the Midland, and does the work much faster. From careful observation it is estimated that five hundred people have been to look at the operations on the dam to-day. C., looking through the telescope this

afternoon, counted sixty spectators—men, women and children, not including those in carriages.

—A letter was received to-day from a gentleman in New York asking us to make estimates on the cost of printing twenty-five thousand copies of a book of four hundred pages octavo. This makes us appreciate the increased facilities which the dam now building is destined to give the printing department.

—The New Haven depot is the centering-point of several railroads, and many and laughable are the instances that occur of persons who, intending to go to Wallingford, innocently get aboard the wrong train, and so have a ride in a different direction from what they anticipated. The other day M., our energetic and usually wide-awake farm manager, by a mistake of this kind, got carried off on the Air-line railroad. Fortunately for M., this road runs so nearly parallel with the New Haven road, on which he was intending to travel, that it landed him at a point only about two miles distant from his destination.

SPRING.

O fragrant Spring! I know you bring
Earth's tender flowers;
Their sunny smile shall long beguile
Our summer hours.

You bring again the April rain,
When smiles and tears
Shall give earth's face the fleeting grace
Of childhood's years.

But more than these, O, bid each breeze
Bring faith and love!
No flowers more fair could angels bear
From fields above.

Then when with song the days are long
In fields of June,
Strong hearts shall raise sweet hymns of praise
To Nature's tune. [G. N. M.]

FATHER GAVAZZI.

New York, April 22, 1872.

DEAR EDITOR:

Nineteen years ago Father Gavazzi, the celebrated Italian preacher, made a stir in this country which will be remembered by many. He is now revisiting the United States, and yesterday preached his first sermon since his arrival. He occupied Rev. T. DeWitt Talmadge's pulpit in the Brooklyn Tabernacle, and spoke to about three thousand people. His theme was, Justification by Faith: and from what I was able to gather of his treatment of it I judged that the discourse was quite "Orthodox." The gentleman speaks with a strong Italian accent, which makes it difficult to thoroughly understand and follow him. He has a fine voice, however, and a style of oratory that is highly dramatic. In this respect he is unlike the phlegmatic English on the one side, and the overheated American on the other. His type of eloquence savors probably of Bourdaloue and Massillon, eminent French orators of the eighteenth century. The concluding appeal of the Father's discourse, accompanied with emphatic action, as it was, cannot be described on paper; it was indeed thrilling. As reported by the New York *Herald*, it ran thus:

"Let us not be ashamed of Jesus Christ. No! When soldiers are not ashamed of the uniform of their nations, let us not be ashamed to be servants and soldiers of Jesus Christ. Let us acknowledge Jesus Christ. Let us confess Jesus Christ before our fellow-men, particularly when our Jesus is mocked by some and despised by others. Let us then professedly and courageously acknowledge Him. What will be our reward? 'He that acknowledges me before men shall be acknowledged by me before my Heav-

enly Father.' Oh! to be acknowledged by Jesus Christ before His Heavenly Father is the same as to say that the Heavenly Father will receive us as his own bosom children, and shall crown us with a crown of joy, the crown of bliss, the crown of love, the crown of glory eternal. Amen."

The object of Father Gavazzi's present mission is to awaken interest in this country in the Free Church of Italy. B.

STUDENT'S LETTER.

More about the East-River Bridge.

About half-past nine I presented myself at the gate of the yard on the New York side.

"Where's Mr. Douglass?" I asked.

"Out there somewhere," said the watchman, pointing in a general way over an acre or more of space behind him, crowded with shanties, steam-engines, piles of gravel, huge stones, barrels of cement, cables, timbers, mules, and Irishmen. I marched boldly in, and not seeing Mr. Douglass began explorations on my own hook.

A long shed filled with six or eight steam-engines first interested me. I found each one hard at work driving a pump, though for what purpose I failed to discover. Threading my way cautiously among cars loaded with blocks of granite, wheel-barrow of mortar, cables that were winding and unwinding, I came to the center of interest—the pier itself. It had just reached the top of the wharf. Here I found Mr. Douglass, who kindly took me under his wing. The pier stands inside a coffer-dam made by piles and planking. A mighty crane, worked by steam, was lifting stones weighing eight or ten tons from a car and dropping them neatly into their places on the pier.

"I suppose, Mr. Douglass, a man is killed here now and then," said I.

"Yes," he replied "we have had some accidents since we commenced. I came very near getting killed myself a while ago. We were working both the cranes at the time. I was standing near one, when I heard a sudden cracking. I looked around just in time to see the farther crane falling over. Before I could stir, I heard the same noise from the one near me. I looked up and caught a glance of the main post falling toward me, pulled over by the arm on which ten tons of granite were hanging. Directly in front of me were two blocks of granite, lying across the path of the crane. I flung myself violently down between them. It seemed to me that there was not time for a flash of lightning before the timber struck the stones just eight inches above my face. One poor fellow who was standing by my side tried to run, but was caught on the stones between which I lay, and crushed flat, his feet sticking into my side."

"Is it liable to happen again?" I asked, rather nervously glancing upward.

"No, I think not. The timbers used before were not so heavy as these."

I was next introduced to a man in rubber boots and working clothes whose name I did not catch, but whom I had already noticed half a dozen times. In fact, he seemed to be all over the pier, inspecting, measuring, and advising in regard to every detail. I set him down as a "live boss" at once.

After Mr. Douglass left me, I was seized with a desire to examine the interior of the pier. Exactly what kind of an inside it might have I had no definite idea. I saw an iron bucket descend every few minutes into an iron tube, and return with a load of gravel. Pipes of four inches in diameter rose perpendicularly at various points around the pier. From these came at intervals a fierce stream of mud, sand and stones, directed by elbows in a horizontal direction. While I was lingering, I noticed a crowd of men issuing from a

sort of well-curb in the middle of the pier, and soon another swarm entering the curb. I could stand it no longer, so walking up to the first man I saw at leisure, I told him what I wanted, and asked him to whom I should go for permission to carry out my project.

"Col. Paine," he said, and directed me to his office. I entered and found two men discussing the details of the work. One was my omnipresent friend of the pier, the other a quiet-looking young man, with bronze skin that told of exposure, brown hair, light mustache. But I needed something more than the clear-cut features, the practical air, and the dignified bearing, to tell me that this was young Roebling, who stepped into the place of Chief Engineer, left vacant by his father's death, and filled it. My previous acquaintance, Col. Paine, is General Superintendent of the work.

In reply to my request the Colonel, after hearing of my connection with the ONEIDA CIRCULAR, politely told me he would conduct me, as he was just going down. Giving me an old coat and hat, we made our way to the well-curb, and commenced descending a spiral staircase. As we went down, down, down, it grew pretty dark. Water was dripping all about us. I wasn't afraid exactly; but I began to have some grave reflections about rashness, etc., when my meditations were terminated by our arrival at a small iron door. The Colonel rapped.

"There will be some noise now," he said, "but no danger."

A sudden rush of air followed, sounding like the blowing off of a boiler. When it ceased, the door opened, and we entered a little iron room lighted with gas. The door was shut behind us, and the Colonel turned to me:

"The pressure of air in the chamber below is 45 lbs. per square inch. I am now going to admit the same pressure into this little room. You will probably feel it nowhere except in your ears. If it gets painful you must swallow. I will stop if you feel any distress." So saying he opened a valve. The air rushed in. Soon my ears began to ache, and I commenced swallowing. As I felt no other pain the Colonel allowed the pressure to run steadily up, till just as my mouth was getting about dried up and the temperature excessive, the required pressure was reached.

Opening another door, we descended a staircase into a large, brilliantly lighted room filled with men. I stood for a moment enchanted; it seemed like some fairy tale.

"Now," said the Colonel (and his voice sounded strangely on my ear), "I shall be busy for a few minutes; go about where you please."

I attempted a reply, at first in vain. By dint of a harder effort, I uttered my thanks in a squeaky, nasal, wheezing tone, that sounded funny enough.

The apartment was about 9 1-2 feet high, and 172 by 105 in area. Massive timbers spread like a net-work over the ground, from which huge posts extended to the ceiling above. Between the timbers were piles of earth. What did it all mean? From a plan the Colonel showed me I got a distinct idea.

In order to get a good foundation for the pier to rest on, the Company made a great wooden box, with a very thick bottom, and turned it the bottom side up on the bed of the river. On to this inverted box with its bottom twenty-two feet thick, made of pine logs bolted together, they are piling the pier. In order that the box shall stand on a good foundation, they made two openings through its bottom, and are hard at work down in the box itself, digging away around its edges, so that it will settle till it reaches something solid. But our box is seventy-two feet below the surface of the river, and unless we stop it in some way the great pressure of the water will compress the air in it and drown us

all out. To effect the desired result, we have simply to increase the pressure of air as the box sinks, making it great enough to balance the increasing pressure of the water. That long row of engines we saw in the yard pumping so busily is doing nothing but forcing air down into the box. The physical sensations under this high pressure are agreeable rather than otherwise; but much exhaustion is felt upon returning to the surface. The men only work two and one-half hours at a time, five hours constituting a day's work. The Colonel told me that they had no trouble with lazy men—the great amount of oxygen taken in operates as a powerful stimulus [a hint for "tired" folks], but when they go up, the sense of goneness is so great that in order to prevent the use of whiskey among the men, hot coffee is served up to them. Every care is taken of the men, and so far as I noticed their novel life does not injure them.

At the time of my visit, as I have said, the box, or caisson as they call it, was seventy-two feet below the surface of the water, and going down at the rate of a few inches a day. The bottom on which we stood was a heavy quicksand. Forty-five thousand tons of stone were piled on the box over our heads, pressing it down. The men were busy shoveling away from under its edges and foundation-beams to help it to settle. On the other hand, the buoyancy of the timbers and the compressed air exert a lifting-force of 35,000 tons, so the actual downward pressure was only 10,000.

The earth is taken out by heaping it up around pipes that extend to the surface. By turning a valve the high pressure of air drives the dirt out with great force. The gas has to be driven in under an extra pressure, but I did not notice any difference in the light. I found it impossible to whistle there, blow as hard as I pleased.

By sounding down through the sand, it is found that five or six feet below their present point there is hard-pan, on which all will finally rest. The room will then be packed solid with concrete, and, it is trusted, stand firmly till the river runs dry.

After half an hour's stay we returned to the upper air in the same manner we went down. The Colonel took me to his office, and made me sit still for an hour, till the enervation first felt was gone. He gave me, meantime, an interesting account of the bridge to be, which perhaps can be better reported when the structure is completed—also of the thousand difficulties that are constantly arising, and how they are met. In fact, Col. Paine was a surprise to me in two ways—first by his kindness and attention; second, by his perfect acquaintance with the minutest details of the work. A General Superintendent of such a big job is more apt to be dressed up and sitting in his office.

There is at present some little financial trouble, I believe; the funds of the Company are getting low; but this enterprise, the grandest of its kind in the world, will surely be carried forward to completion by some means.

C. A. C.

GUNPOWDER.

Report of a Lecture at New Haven by Captain
C. E. Dutton.

CAPTAIN DUTTON is a man well qualified to speak on the subject of Gunpowder, as he has been connected for some time with the Ordnance Department at Washington, where he has experimented with powder and guns. He also stood the fire of rebel guns in our late war. He is a graduate of Yale, where his brother also studied for a time. This brother left his studies at the call of our country and fell in battle.

The great object to be attained in making explosive compounds, said Capt. Dutton, is to produce a substance which shall occupy a small compass, and at the same time contain a great amount of

latent elastic force, or elements which are suddenly convertible into elastic force. This substance may be a liquid as well as a solid. Although gunpowder does not fulfill these conditions in the highest degree, yet for reasons which will be shown hereafter, it is the substance which is best adapted for the purpose for which it is used. Gunpowder is composed of the three following substances; saltpeter or nitrate of potassa, sulphur and charcoal; about seventy-five parts of the first, and twelve and one half of each of the other two. The merit of saltpeter is that it is largely composed of elements that are suddenly convertible into gases by the application of heat. The use of the charcoal is to distribute these elements over the greatest amount of surface, so as to facilitate combustion, which it is able to do by means of its porous constitution. The sulphur serves the double purpose of aiding the decomposition of the saltpeter and of enabling the compound to be ignited at a lower temperature. Its presence is not necessary for the effectiveness of powder. The products of the combustion of gunpowder are free nitrogen, carbonic acid and sulphide of potassium.

The explosion of gunpowder, although it seems to be instantaneous, is really progressive. Thus, said the lecturer, holding up a large grain of powder, when this is ignited combustion begins at the surface and works toward the center. So in a whole charge of powder, ignition is effected at one end of the charge and is communicated from grain to grain until the whole is ignited. This may be shown by placing a train of powder on a board and igniting one end of it. The progression is apparent. Also grains of unburned or partially burned powder may be picked up after a cannon has been fired, showing that they had been thrown from the gun before ignition, or during ignition, and had been extinguished by rapid motion through the air, before complete combustion had taken place. This peculiarity of gradual combustion is that which renders gunpowder so much more available in fire-arms than nitro-glycerine or gun-cotton. In case powder is laid upon a board and ignited, the action is so slow that the escaping gases have time to force the air away and make room for themselves without shattering the board: while if nitro-glycerine or gun-cotton were fired on a board the action would be so sudden that the air would not have time to yield to the expanding gases; consequently the explosion would make a loud report, and the board in the immediate vicinity of the discharge would be "blown into tooth-picks." The great objection to the use of violent explosive substances, especially in blasting, is, that the effect is so local; the action is so quick that there is not time for motion to be communicated to a great mass. If the explosion of gunpowder were instantaneous no gun would be able to withstand the force; but as the explosion is comparatively gradual the shot yields to the pressure, and thus makes room for the gases as they are produced.

The great problem in gunnery at the present day is, not to get a more powerful agent, but to get one that is more gradual in its action, or, as the Captain expressed it, "we want to get a lower breech pressure and a higher muzzle pressure," that is, we want to distribute the action or impulse of the explosion equally along the length of the gun.

Various methods have been employed to effect this end. The size of the grains of powder is one important consideration in attempting this, as the time occupied in burning is directly proportional to the surface of the grain. The Prussian Government use what is called "lens powder;" the name alluding to the shape of the grains, which are about three-fourths of an inch in diameter and have two convex surfaces. These grains are

shaped by pressing the powder when moist between two dies which have concave surfaces; so that the portion of the grain around the edge undergoes a greater pressure than the central part, and consequently is more dense. It was found on trial that the circumference of the grain, or that part which was most compact, burned the slowest; as after a discharge, grains of powder were picked up which had the central part completely burned, leaving a ring of unburned powder. The effect is to retard combustion and distribute the action along the length of the gun. In common rifles the pressure at the muzzle is increased by making the bore of the gun smaller at the muzzle than elsewhere.

The greatest pressure in cannon has been obtained from powder which was first made into small grains about the size of the grains of common powder, and then these grains molded into larger ones. With this powder a pressure of 200,000 lbs. to the square inch was obtained. How the pressure in a gun is determined seems at first a difficult problem, but Mr. Dutton's explanation made it appear comparatively simple. It was this: A cylinder of iron is taken from four to six inches in diameter and six or eight inches long. In one end of this is a hole extending two-thirds of the length, and large enough to admit a copper disk one and a half inches in diameter and three-quarters of an inch thick. After the copper disk is placed in the bottom of the hole a plug is screwed tightly into its mouth. In this plug is another smaller hole, through which a steel rod or piston enters easily, carrying at its lower end a "guillotine knife," as it is called, which is a thin plate of steel with a semicircular edge somewhat like the edge of an ax. Suppose the parts to be adjusted, and the whole thing to be placed in the lower part of the gun, back of the powder. The gun is then fired; this indicator is found, and the plug taken out; the copper disk is then removed, in which a deep gash has been cut by the knife, urged by the pressure on the end of the piston. A second copper disk is then taken which has the same density as the first, and a steel blade of exactly the same size as the first is forced into it by means of an hydraulic press just as deep as the gash in the first disk. When this has been accomplished the pressure used is accurately read off from the indicator on the press; thus the pressure in the gun is obtained. To determine the pressure in different parts of the gun, indicators are placed at intervals along the barrel in chambers opening at right angles to the axis of the gun.

C. A. B.

LINCOLN'S DREAM.

The President remarked that the news would soon come, and come favorably he had no doubt, for he had last night his usual dream which had preceded nearly every important event of the war. I enquired the particulars of this remarkable dream. He said it was in my department; it related to the water; that he seemed to be in a singular and indescribable vessel, but always the same, and that he was moving with great rapidity toward a dark and indefinite shore; that he had had this singular dream preceding the firing on Sumter, the battles of Bull Run, Antietam, Gettysburg, Stone River, Vicksburg, Wilmington, etc. Gen. Grant remarked with some emphasis and asperity, that Stone River was no victory; that a few such victories would have ruined the country, and he knew of no important results from it. The President said that perhaps he should not altogether agree with him, but whatever might be the facts, his singular dream preceded that fight. Victory did not always follow his dream, but the event and results were important. He had no doubt that a battle had taken place or was about being fought, "and Johnson will be beaten, for I had this strange dream again last night. It must relate to Sherman; my thoughts are in that direction, and I know of no other very important event which is likely just now to occur." Great events did indeed follow. Within a few hours the good and gentle as well as truly

man who narrated his dream was assassinated, and the murder which closed forever his earthly career affected for years, and perhaps forever, the welfare of his country.—["Lincoln and Johnson," by Gideon Welles, in April *Galaxy*.

THE NEWS.

AMERICAN.

A special berry-train is to be run this season from Crisfield, Del., to Jersey City.

Twenty-two new mills have been commenced at Fall River, Mass., within a year and a half.

A discovery of gold-bearing antimony is reported on the line of the Central Pacific railroad.

A woman is employed as conductor of a train of cars on the Hannibal & St. Joseph railway in Missouri.

A bill to abolish the franking privilege has been defeated in the House of Representatives by a large majority.

There are one hundred and sixty savings banks in Massachusetts, having deposits to the amount of \$166,598,120.

During the last year seven hundred churches and fifty-six thousand members were added to the Methodist denomination in this country.

Of one hundred and forty-five seal-fishing vessels which cleared from the ports of Newfoundland, six have returned bringing 49,500 seals.

Professor Paul Chadbourne was last Wednesday elected President of Williams College, Mass., in place of Dr. Mark Hopkins, resigned.

Thirteen hundred Japanese immigrants arrived at San Francisco by the last steamer, to be employed as laborers in different parts of the country.

Two million dollars worth of Japanese gold coin arrived in San Francisco by the Steamer America, to be assayed for recoinage under the new standard.

United States engineers will this year conduct a series of observations at a large number of stations to settle the question, Do the Great Lakes have tidal movements?

The State Government of California has commissioned Professor Whitney to investigate the phenomena of the recent earthquakes on the ground where they took place.

An immigrant Aid Society has been formed at Norfolk, Virginia, to promote immigration through that port. Branch societies are to be established throughout the South and West.

The Presbyterian Board of Foreign Missions, having missions established in Persia, has appointed three of its members to receive and forward aid to the famishing inhabitants of that country.

Arrangements are making to establish meteorological stations in the West Indies, which will enable the Weather Bureau to signal the southern coasts of the approach of the cyclones which issue from that tropical region.

In Boston the principle of cooperation has been extended into a new field by the formation of a Milk Consumers' Protective Association, which has commenced to distribute every morning among its customers some three hundred cans of fresh milk, just as it comes from the cows.

The Presbytery of Brooklyn, N. Y., has adopted an address to the General Assembly earnestly requesting it to adopt such rules as shall oblige all churches under its care not to license or ordain women to the Gospel ministry, and not to allow them to teach or preach in pulpits or in the public and promiscuous meetings of the church.

A motion to release Brigham Young on a writ of Habeas Corpus has been argued in the Probate Court of Utah, and the objection of the United States Marshal, that that Court had no power to release a prisoner held on a judicial process from the District Court, was overruled by the Probate Judge, on the ground that the District Court had been illegal for two years past, having abused and transgressed its powers, and was not to be respected. Mr. Young was present, and was congratulated on his release.

The St. Louis Board of Trade has issued a memorial requesting all of the States to repeal their laws making the inspection of merchandise compulsory. In illustration of the effect of such laws a member of the Boston

Board of Trade states that a capitalist of Boston proposed to build tanks on platform-cars and send them to San Francisco filled with mackerel, to be returned filled with salmon, but had to abandon the enterprise as the inspection laws of Massachusetts restricted all packages of fish to 200 lbs., and his tanks would contain 2000 lbs.

A question of some general interest has just been decided by the United States Circuit Court for Kentucky, in a case of a church in Louisville, Kentucky, which became divided near the close of the war, the majority seceding from the "Church North" and joining the "Church South." The question was: To which party does the church property belong? The Court of Kentucky had decided that it belonged to the majority, but the Supreme Court reversed this decision, holding that property that has been dedicated to the support of any definite religious doctrine or form of worship cannot be diverted from that trust by the civil courts, and that where a church is but a part of a larger and more general organization, the decisions of the highest ecclesiastical tribunal of that denomination will be received as final, without inquiring into the justice or injustice of its decree. The officers and ministers and members whom the highest judiciary of the denomination recognizes the Court will recognize, and whom that body expels or cuts off the Court will hold to be no longer members of that church.

FOREIGN.

The Italian Government has offered the Pope a yearly allowance of \$645,000, but the offer is declined.

One year ago there were no public schools in Rome: now there are twenty-two, and an aggregate attendance of six thousand scholars.

It is announced by the *Japan Herald* that the Mikado, who is now about twenty-one years old, will visit this country on the return of the Embassy now here.

The eruption of Mount Vesuvius has been increasing in violence until it has attained an "unwonted pitch of grandeur." New craters have been formed, and streams of lava flow in different directions.

The provinces of Navarre, Lerida and Biscay, in Spain, have been declared by a royal proclamation in a state of siege. It is believed in Paris that the struggle now commencing in Spain will be a severe one.

The Carlist party in Spain is again very active. A brother of Don Carlos has been arrested in Marseilles in France while on his way to Spain. The arrival of Don Carlos in Spain from Geneva is hourly expected.

An Italian Bible Society has been formed in Rome, and at the meeting which was held at its formation in the large room of the Argentine theater the crowd was so great that many had to listen outside the open windows.

The Catholic Bishop of Ermeland, in Germany, has been notified by the Minister of Public Worship that sentences of excommunication must not be pronounced against German subjects without the consent of the Government.

A debate has taken place in the British Parliament on the land law, or the law of entail, and a sacrilegious minority of eighty-one voted for a change. Even Mr. Gladstone and Mr. Disraeli both admitted that the subject was deserving the attention of Parliament and demanded early and serious consideration.

The rogues in England who sand sugar, water milk, and otherwise adulterate food, are to fare hard. A law has been passed imposing a fine of \$250 for the first offense, and six months' imprisonment at hard labor for the second; while arrangements are provided whereby any purchaser may have an article analyzed on paying a small fee.

The British and American Governments are to endeavor to stop the Arab slave trade carried on through Muscat into Persia and Mesopotamia. A clause in the commercial treaties with the Imaum of Muscat, allowing him to import "household slaves" into his dominions, has been taken advantage of to engage in systematic slave trade.

The National Assembly of France renewed its session April 22d. President Thiers asked for the early disposal of the tax question, and the formation of a Council of State; but hoped that the army bill would not be discussed, for grave reasons of State. The rapid increase of the army before the war debt is paid is a cause of complaint on the part of Germany.

Josh Billing's recipe for "getting out of a tite spot"—*"sit still and tire the spot out."*

A Darwinian suggests the following reading for the fifteenth and sixteenth verses of the one hundred and thirty-ninth Psalm: "My protoplasm was not hidden from thee when, far back in the Silurian epoch, I floated on the sea a frilled and flounced Medusa. Yea, in ages still more remote, before differentiation had begun, thine eyes did see my sarcode, and in thy thought my limbs took form before they were evolved."

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