

Historic magazine

MISCELLANEOUS

NOTES QUERIES

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*HISTORY, FOLK-LORE, MATHEMATICS,
MYSTICISM, ART, SCIENCE, Etc.*

“Many people know many things, no one everything.” —*Edward Coke.*

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P R E F A C E .

VOLUMES IX AND X (1892).

WE have again arrived at the close of another year, and also to the close of the tenth volume of *NOTES AND QUERIES*. While taking a retrospective glance over the volumes, we are reminded of the words of William Ellery Channing in his address on "*SELF-CULTURE*" an introductory to the Franklin Lectures, Boston, 1838. He says :

"God be thanked for books. They are the voices of the distant and the dead, and make us heirs of the spiritual life of past ages. Books are the true levellers. They give to all, who will faithfully use them, the society, the spiritual presence, of the best and greatest of our race. No matter how poor I am, no matter though the prosperous of my own time will not enter my obscure dwelling, if the sacred writers will enter and take up their abode under my roof, if Milton will cross my threshold to sing to me of Paradise, and Shakespeare to open to me the worlds of imagination and the workings of the human heart, and Franklin to enrich me with his practical wisdom, I shall not pine for want of intellectual companionship, and I may become a cultivated man though excluded from what is called the best society, in the place where I live."

Disraeli (Earl of Beconsfield) says that nine-tenths of existing books are nonsense, and the clever books are the refutation of that nonsense. These adverse views as to the value of books only illustrate many a modern mind. Even it is said that when the Alexandrian library was ordered to be burned, that the Calif Omar said the Koran was the sole book needed for the world.

The great number of books referred to and quoted in ten volumes of this periodical are evidence of the large field the contents cover. We intend during the coming year to publish an index to the entire ten volumes (July, 1882, to December, 1892), which will constitute the first series.

We are aware that there are some discrepancies in statements, and other minor errors. Authorities differ in chronology, in translation, in etymology, etc., but the conflict serves to incite us to investigate,

which develops new thought and material on the same and other subjects, and others are benefitted thereby.

Errors have been detected in several of our great works of knowledge, showing that more extensive research and comparative study sometimes modifies, sometimes enlarges, and oftentimes corrects a statement. Witness the text of Shakespeare, its 'various readings,' the disputed authorship, and the like, all comparatively modern. William Geddes, LL.D., of Aberdeen, Scotland, says: "It is a singular fact that the text of Euripides and perhaps of Sophocles also, is in a firmer state than Shakespeare's at this hour."

We make no promises for the future as to field occupied by this magazine, but shall continue to "keep the noiseless tenor of our way."

Our kind thanks are hereby expressed to all contributors to our pages, and a kind remembrance to all those who have promised contributions. We trust we shall receive some entertaining and instructive articles from old and new correspondents.

S. C. & L. M. Gould, Publishers.

MANCHESTER, N. H., December, 1892.

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MISCELLANEOUS NOTES AND QUERIES,

WITH ANSWERS.

"Let us be silent, so we may hear the whisper of the gods."—EMERSON.

VOL. IX.

JANUARY, 1892.

No. 1.

1892.

During the past decade we have published 1964 pages of *Notes, Queries, and Answers* comprising a great variety of subjects. The total pages more than cover the promised monthly installment in the initial number, for the period past. Another decade begins with this Columbian cyclic year, which seems to be the gateway to the opening portals of the coming century.

We seldom say anything of ourselves, and hence make very few promises as to our future purposes. We find recreation in searching for that which was lost, whether under cover of a word or in some out-of-the-way volume. We are told that "Homer sometimes nods," and that may be true to some, but his admirers are rapidly on the increase. We have several articles on file for our readers, and many questions relating to him and his poems. These will be printed in a more compact form than heretofore. One reader asks what translation he shall read. That is a hard question, when we consider the many that have been made, and some of them attempted to obviate the defects of others. There have been many translations of the *Iliad* and quite a number of the *Odyssey*, which may form an article subsequent to those on the "Cyclic Poets," who wrote six epics, known as the lost poems of the Epic Cycle.

What is Theosophy ?

BY ANNIE BESANT.

All the world of late has been talking about Theosophy—mostly with a plentiful lack of information—because of the death of the woman who presented it once more in the Western world, Helena Petrovna Blavatsky. Many predicted its disappearance with the death of its expounder, but Mme. Blavatsky was only the latest of a long line of messengers, who, at considerable intervals of time, have put forth the same teachings, the same ideas touching the Universe, man, and man's destiny. Theosophy was not born with her physical body, nor has it died with it; on the contrary, it has received a new impulse from her departure, if only in the fresh proof that it does not depend on the physical presence of any one personality, however great. And truly her personality was a very great one, how great will be measured better a century hence than it is to-day.

Theosophy is the ancient Wisdom-Religion, handed down for thousands of years by generation after generation of Initiates, who from time to time have given out portions of its doctrines, as the evolution of the human race rendered mankind at large ready for the teaching. These Initiates are merely men more highly evolved than their fellow-men, who have become capable of apprehending the deeper truths of nature, by developing the intellectual and spiritual parts of their being, and so coming into contact with portions of the Universe unknown to the race at large. For it must be remembered that while our knowledge of the Universe is bounded by our capacity to receive impressions from it, the Universe itself is not so bounded. Every fresh sense, every new point of contact, that can be developed in man opens up new avenues to knowledge of the infinite shores of nature. The Initiates—called sometimes Adepts, Mahâtmas, Masters—are men who have opened up many such new avenues, and who pass on the knowledge thus acquired to their more backward brethren, as these are able to understand it.

This Wisdom Religion—to give its older name, for Theosophy is a modern title, dating only from the third century, A. D.—is the foundation of all exoteric religions, the source of all true sciences and philosophies. The chief doctrines of the great religions of the world are allegories, too often distorted, clustered round a nucleus of exoteric truth. The science of the nineteenth century also draws some of its most cherished theories from the Initiates of Greece, and the chief "discoveries" of the Middle Ages were made by men who had been trained in Occultism in the East—as the discovery of hydrogen by Paracelsus. Every student can see how the most advanced philoso-

phies of Germany are penetrated with the spirit of the Eastern schools. And so, in the course of ages the time has come when Theosophy can stand out to claim a hearing for its doctrines from the intellectual world, to challenge the theory of materialism, to lay the scientific foundation of religion, and to give that sure basis for ethics of which modern society is so much in need.

Theosophy teaches that the Universe is Life embodied, and regards "spirit" and "matter" as the two poles of this manifesting energy, which evolves into seven planes or stages of existence, each characterized by its own attributes. Man is an image in miniature of the Universe, and is therefore sevenfold in his constitution, being related by each plane of his being to the corresponding plane in the Universe. Hence, as he evolves the higher parts of himself he comes in contact with the higher planes of the Universe, and can study, investigate, and know them with as much certainty as he can study, investigate, and know the physical plane through his five physical senses. The department of Theosophy that deals with the methods of this evolution is called Occultism; it is the study of the mind of the Universe by theory and by practice. Few have the self-sacrifice, the endurance, the courage, the purity, for such investigation, and emphatically it is true of occultism that "few are chosen."

Accepting the correspondence between the Universe and Man, it follows that man must also be Spirit-embodied, i. e. that he is a spirit using a body, not a body possessed of a spirit. This spirit can become self-conscious on all planes of existence only by experience, and this experience can only be won by treading each plane in all its phases, until the Perfect Man, living on all planes in full self-consciousness, is ultimately evolved. The task is a long and weary one, needing myriads of years for complete accomplishment, so that the spirit and intelligence, which are the permanent part of man, must return to earth life over and over again, inhabiting body after body, and building up brick by brick the splendid temple of a Divine Humanity. Theosophy, then, teaches the doctrine of Reincarnation, and further, Reincarnation under Law. This law, named Karma (the Sanscrit word for *action*), is the enunciation of causation, in all worlds, mental and moral as spiritual, and Reincarnation is under its sway. As the man sows in one life, he reaps in succeeding lives, and he can never escape the consequences of his own actions. "Action," in the Theosophical vocabulary, it should be said, includes all mental as well as bodily activities, the mental being, indeed, by far the most potent in their effects. In a fashion, any description of which would far outrun the limits of my space, man in each life casts the mould for his future capacities, power of self expression climbing slowly up with many slips and falls, alas! that long ladder of life eternal, whose highest rungs are veiled in light too dazzling to be pierced by mortal

eye. Reincarnation and Karma are the foundation of theosophical ethics, affording the categorical imperative for which every ethical system craves.

Such is the bold outline of a fragment hewn from the rock of Theosophy, a fragment only of a mighty whole. Those who would grasp the teachings of the Wisdom-Religion must study for themselves, and not hope to catch more than a glimpse of it in a magazine article. But the glimpse may attract one here and there to long to see the unveiled truth.

I ought to add to this sketch that no belief in any of the teachings sketched is necessary for admission to the Theosophical Society. That Society only imposes on its members one obligation, the acceptance of the Universal Brotherhood of Mankind. Its objects are:

1. To form the nucleus of a Universal Brotherhood of Humanity, without distinction of race, creed, sex, caste, or color.
2. To promote the study of Aryan and other Eastern literatures, religions, philosophies, sciences, and to demonstrate its importance.
3. To investigate unexplained laws of nature, and the psychic powers latent in man.

Of these, acceptance of the first only is obligatory. Many members of the society study Theosophy, and many accept its teachings, but neither the study nor the acceptance, is enforced on any. Each is left free to work out his own line of thought, and to reach its own conclusions in his own way. But every member must recognize, and ought to serve in that brotherhood which sees in every sorrow the duty of succor, which hears in every cry the call to comfort, which refuses to allow any barrier to shut off man from man, and which by the very might of its conviction shall one day realize that in which it believes.

AN "ANGRY TREE." The "angry tree," a woody plant which grows from ten to twenty-five feet high, and was formerly supposed to exist only in Nevada, has recently been found both in eastern California, and in Arizona, says the *Omaha Bee*. If disturbed, this peculiar tree shows signs of vexation, even to ruffling up of its leaves like the hair on an angry cat, and giving forth an unpleasant, and sickening odor.

9 EGG PROBLEM. Put down the figures of the year of your birth; add to it your own age and the figure 4; multiply the sum by 1,000; subtract from the product the number 630,423. In the answer substitute letters for the figures, in the order of the alphabet, the letter being numbered in numerical order. The result will show, in setting a hen, which is the bad egg.

The Abracadabra.

(From Glossary of "Oahape—a New Bible," second edition, 1891, p. x.)

The abracadabra was a monotonous prayer, set in the form of a triangle, of short and disconnected sentences, so arranged that it was without beginning or ending, which a person might repeat over and over to induce sleep or trance. Persons who practiced casting themselves into trance by this method were called abracadabras.

When the prayer abracadabra was given to a person, it was from mouth to ear, and never written. The receiver was told that on learning it, he should forever keep it a secret, and only reveal it to one person just before his death. The person was told also that it had power to induce the trance state in him, or her self. Persons who thus attained to the self trance-state became oblivious to pain and to all knowledge of things around about them for a certain period of time, which was generally marked out by themselves beforehand. In this trance, the person often worked what was then called miracles. When they applied themselves to heal the sick, they made the sick one keep repeating the word, "abracadabra." This of course also had its faith effect on the sick one, in which case a healing was sure to take place.

The word is pronounced as if written, *aub, rau, kau, d'aub, rau*, with the accents on *kau*, and on the final *rau*; or, in the English language as if written, *ob re kaw', de ob raw'*.

The meaning of the word according to this in the ancient tongue is :

1. *Ab*—something is as the earth and sky; things move; I am, and I move; my hand moveth; life in me maketh my hand move; therefore life is *primus*; motion cometh afterward; life in me causing motion showeth that life moveth all the universe. It is the I-AM, self-existent everywhere. We now have corpor, motion, and life, three in one. This is the foundation of the problem, and is called *ab*.
2. *Ra*—Things move two ways, to life and from life. One is creating and coming together, and the other is going away from, as destruction or death. This, the second part of the problem, is called *ra*.
3. *Ka*—I cannot exist separate from thinking, nor can any life move, even my hand, without thinking. Therefore, thinking is before life itself. I could not think if I had not inherited it from the I-AM. Therefore, He is the Knowledge pervading all life and all corporeal things. This thinking, the third part of the problem, is called *ka*.
4. *D'ab*—a creation, coming out of the first and second; for as *ab* standeth for general creation, life and coming together, motion, etc.,

so *d'ab* signifieth that which creates out of the evil creation, or lesser creation. As man sinneth against creation if he killeth. Thus he becometh a creator himself, but of death. This creation, the fourth part of the problem, is called *d'ab*.

5. *Ra*—is evil in crossing conditions of earth. I may plan war, but of own myself kill not ; but my soldiers do the killing. My own thoughts, my life, and my powers are directed to evil creation. I am the *d'ad ra*, or evil creator. *Ra* alone is sin, evil, destruction, death ; but he that standeth behand as the inventive mind is the creator of sin, the *d'ab ra*. At least such was the doctrine of the ancients. They held that the word was the digest of things composed of five simple problems. Moreover they taught that to repeat the word over and over put man in conjunction with the I-AM in all holiness. The final *ra* was the fifth part of the problem.

"OXEN OF THE SUN." What was the crime committed by the companions of Ulysses as stated in the *Odyssey* (1, 4), "who devoured the oxen of the Sun who journeys on high" (Buckley)? OBSERVER.

For further information on this question we will quote Buckley's translation of the *Odyssey* (XII, 254-160), which furnishes a fuller text for the propounding of the subject. Let some esoteric scholar give us a solution of "OBSERVER'S" question.

"And thou wilt come to the island Trinacria, where are fed many oxen and fat sheep of the Sun ; seven herds of oxen, and as many beautiful flocks of sheep, and fifty in each ; but there is no increase of them, nor do they ever perish ; but goddesses are their shepherdesses, the fair-haired nymphs, Phæthusa, and Lampetia, whom the divine Neæra bore to the Sun who journeys above. Whom having nourished and brought them forth, their venerable mother sent them away to the Trinacrian island, to dwell afar off, to guard their father's sheep and crumpled-horned oxen. If thou leavest these unharmed, and carest for thy return, thou mayest yet come to Ithaca, although suffering evils ; but if thou harmest them, then I foretell to thee destruction to thy ship and thy companions ; and although thou should thyself escape, thou wilt return late, in misfortune, having lost all thy companions."

Such was the prophecy of the fair-haired Circé to Ulysses, and notwithstanding the advice and restraint of Ulysses to his companions, one of them Eurylochus, in the absence of Ulysses, advise his companions to "kill and eat," which was done, and the prophecy was fulfilled as stated.

An Abracadabran Invocation.

O Mighty One! Devoured am I with sin. Immerse me in Thee,
 O my Father in Heaven! Hide me, that I be no more forever.
 Death I covet, O All One! Sweet world in pain! Death in life!
 Mighty Creator! Blessed! Heavenly! Amen! Extinguish
 mine iniquities! Make me as nothing! I fain would be a saint.
 Talk to me, Thou high Ruler, Who made me before I knew it!
 O Mighty, All Perceiving! Holy, Holy, above all else!
 What am I that I should call upon Thee? Thou knowest.
 I am not hidden. My flesh is dead even while I live.
 Remove all that is foul in me! Come thou near me,
 if only for once, O Mighty one! I could be destroyed
 by a stroke of Thy hand, O All One! I am but a
 waste particle in Thy members. Give me the oblit-
 erating stroke! Purify me, O Father, or blot me
 out! O Mighty One! Thou, never seen, though
 the print of Thy presence is all around me!
 Glory be to Thee on high, O Mighty One!
 How fearfully madest Thou me! Take out
 that which is dead in me, and lo, I am not!
 Take out that which is life in me, and lo,
 I am not! Hallowed be Thy works,
 O Father! All Holy be Thy hidden
 name! Mighty and Everlasting!
 I dare not call Thee by Thy name,
 O Father! Holiness is in the
 thought of Thee; but words blot
 Thee. Take me into Thee,
 that I shall be lost forever!
 Now am I going! Hold
 me, O Father! My vision
 is clouding, O Thou, All
 Creator! O Thou
 Mighty One! Im-
 merse me in Thy
 Being! Make
 me all forget-
 fulness! In
 Thee, All
 Holiness,
 forever,
 I rest.
 Om!

Astral Origin of the Hebrew Alphabet.

"Can we read the stars"? is a question that is frequently asked. Similar questions have several times been received by us, asking if any alphabetic characters can be discerned among the stars, and if so, where. Now literally there are but very few *English* letters to be actually observed. For instance, the letter V is plainly seen in the group called the Hyades in the face of Taurus. The letter known as the Egyptian X is formed by the five stars *Procyon* (in Canis Minor), *Betelgeuse* (in Orion), *Naos* (in Argo Navis), *Phact* (in Columba Noachi), *Sirius* (in Canis Major), for the central star. The letter Y is observed in the urn of Aquarius. (See Burritt's "Geography of the Heavens," pp. 55, 73, 135, for fuller details of these letters.)

Rev. J. H. Broome, Vicar of Houghton, Norfolk, England, in 1881, published a quarto volume on the "Astral Origin of the Hebrew Alphabet," in which he quotes from a volume, "Memorial of Frances Ridley Havergal," by a sister, that "everything earthly contains analogies of the heavenly, but that we have not yet the key to all the golden ciphers." He instances, however, several analogies in botany, crystalization, and forms, looking like "day stars, rainbow galaxies of earth's creation," as Horace Smith inspires it.

Mr. Broome says Robert Southey mentions one Rabbi Kapol as having written an astral alphabet. Gaffarelli says Kapol was the greatest Jewish astronomer. The "Astronomical Register," for 1870, contains an astral alphabet with letter-press. The diagrams are given in Vol. III, in the Library of the Victoria Institute.

The letters of the Hebrew alphabet are found in form in the resemblance to configurations in the twelve zodiacal constellations, and ten others making the twenty-two, as follows :

Aleph, in	Taurus.	Lamed, in	Aries.
Beth,	Gemini.	Mem,	Eridanus.
Gimel,	Cancer.	Nun,	Southern Fish.
Daleth,	Leo.	Samech,	Band of Fishes.
He,	Virgo.	Ain,	Pleiades.
Vau,	Libra.	Pe,	<i>Beta</i> in Taurus.
Zain,	Scorpio.	Tzaddi,	Orion.
Cheth,	Sagittarius.	Koph,	Belt of Orion.
Teth,	Capricornus.	Resh,	<i>Delta</i> Canis Maj.
Jod,	Aquarius.	Shin,	Canis Minor.
Caph,	Pisces.	Tau,	Southern Cross.

The first verse of Psalm xix in the Hebrew stellar characters which are asterisms taken as per the above alphabet, are arranged in lines, and give the Hebrew words composing this verse :

"The heavens declare the glory of God, and the firmament sheweth his handiwork."

These Hebrew letters were verified by Mr. Deustch, late Librarian of the British Museum. The scheme depicts 72 stars of the first and second magnitudes, and 48 stars of lesser magnitudes.

SUMBULA. Thomas Hyde, in his "Religionis Veterum Persarum," chap. xxxii, p. 39, traces the origin of the word Sibyl to the astrology of the Persians and Arabians. He mentions a star in the zodiacal constellation Virgo, which is called *Sambul*, or *Sumbula*. The Phœnicians and Chaldeans called some star in this same constellation by the name of *Sibylla* or *Sibhyla*. What particular star was called thus ;

SUBSCRIBER.

The star alluded to above by "SUBSCRIBER" is that known by the name *Azimech*, or *Spica Virginis* (spike of the Virgin), the ears of corn. It is of the first magnitude, and one of the nine conspicuous stars which lie along the moon's path that are used by nautical men for determining their longitude at sea. They are Arietis, Aldebaran, Polux, Regulus, Spica, Antares, Altair, Formalhaut, and Markab.

The Arabic name of this sign is *Sun-bula* "one who bears." The chief star's name in Arabic is *Al Zimach* ; in Hebrew *Zemakh*, "the branch or offspring" (Isaiah iv, 2). The Hebrew name of the sign is "*Bethula*" the virgin.

DIED ON ANNIVERSARY OF BIRTH. (N. AND Q., Vol. II, p. 400 ; Vol. VIII, p. 412.) The following are remarkable for this occurrence :

Name.	Born.	Died.	Ag
Moses,*	Aug. 27, 1827 B. C.	Aug. 27, 1705 B. C.	120
John Sobieski,	June 17, 1629.	June 17, 1696.	67
William Shakespeare,	April 23, 1564.	April 23, 1619.	52
Thomas Browne,†	Oct. 19, 1505.	Oct. 19, 1582.	77
Timothy Swan,‡	July 23, 1758.	July 23, 1842.	84
Maria Taglioni,§	April 23, 1804.	April 23, 1884.	80
John McLean Taylor,	Nov. 21, 1828.	Nov. 21, 1875.	47

* Deut. xxxi, 2 ; xxxiv, 5.

† Author of "Religio Medici."

‡ Composer.

§ Dancer.

|| Nephew of Zachary Taylor.

$$\sin 90^\circ : LI (= 2.3343) :: \sin 79^\circ 6' 40'' : Lp' = 2.2923 ;$$

$$\therefore p'N = 2.3343 - 2.2923 = .0420 ;$$

$$\therefore p'D = .0420 + .3333 = .3753 ;$$

$$\therefore .3753 \times 2 = .7506 = IH.$$

In the triangle ALI we have $LI = 2.3343$ and $LA = 2.3343 - .6666 = 1.6677$, and the included angle $ALI = 10^\circ 53' 20''$, to find the side $AI = .7645$. Therefore, the chord AI is greater than the chord IH by $.7645 - .7506 = .0139 = \text{error of construction}$. Hence, it follows that, in general, the arc AHC is *not* trisected in I .

J. E. HENDRICKS, Des Moines, Ia.

SUPERSTITION. The following is a copy of an old manuscript in the possession of a gentleman in Topsfield, Mass. :

To know whether a person tells the truth or not. You must write his or her name in Latin, that you would prove this practice by, and likewise the name of the day they told you the tale ; and unto each of these letters the number thereunto belonging, as you shall see in the alphabet following, and put all those numbers into one total sum, and add thereunto 26, and then divide the whole total sum by 7, and then if the remainder be even, the person hath not told you the truth ; but if it be uneven, the person hath told you the truth.

A	B	C	D	E	F	G	H	I	K	L	M
10	2	20	4	14	6	16	7	10	11	11	12
N	O	P	Q	R	S	T	V	X	Y	Z	
4	14	6	26	6	1	10	2	2	4	14	

Observations show that this rule dates back several hundred years because of the omission of J, U, and W.

BEDWIG — THE ARK-BORN MAN. N. AND Q., (Vol. VII, p. 98 ; VIII, p. 422.) In one of the six existing manuscripts of the Ancient Saxon Chronicles, at the end, are these words :

"Bedwig was the son of Shem, who was the son of Noah, and he, Bedwig, was born in the ark."

For further information relative to the Ancient Saxon Chronicle see "Anglo-Israelism and the Great Pyramid," by Rev. Bouchier Wrey Savile, p. 50. London, 1880.

NAMES—MEANING OF AGAMEMNON, ACHILLES, AJAX, ANDROMACHE, ÆNEAS, ETC (N. AND Q., Vol. VIII, p. 370.) Any good Greek-English Lexicon will answer this correspondent. We take a few from "Clavis Homerica, or Lexicon of all the words which occur in the *Iliad*," by John Walker. London, 1829. Third edition.

Achilles—a, *not*, cheilos, *the lip*; which some make him "thin lips." Anthon adds some information to this. He says Chiron is said to have given him the name Achilles from the circumstance of his food being unlike that of the rest of men, "a, *priv.*, and *chile*: "*fructus quibus vescuntur homines.*" Apollodorus says his first name was Ligyrion; but Agamestor says he was first called Pyrisous, that is "saved from fire." Several other etymologies have been given.

Agamemnon—means "one to be admired for his perseverance."

Ulysses—means "a road, or public highway," indicative of the place where he was born.

Priam—means "purchased or ransomed," from being ransomed by his sister Hesione from Hercules.

Calchas—means "to meditate deeply," being a Grecian soothsayer.

Astyanax—means "the chief of the city," son of Hector, so called because, as Homer says, "Hector's arm alone was the defence and strength of Troy."

Chrysos—means "golden," a name of a priest of Apollo.

Smintheus—means "mice," a place noted for mice.

Phoenix—generally considered to mean "a palm-tree," but there are several other etymologies proposed.

Enviroments and circumstances at birth had much to do with the names of those who bore them.

ODD OR EVEN. Suppose that a person take an even number of coins or counters, or any such in one hand, and an odd number in the other, there is a simple method by which to tell in which hand the even number is. Ask the person to multiply the number in the right hand by an odd number, and the number in the left hand by an even number; then tell the person to add the two products together and tell you if the sum total be odd or even. If the sum be even, the even number is in the right hand, and if it be odd the even number is in the left hand.

ACHILLEID AND ODYSSEID. Why was Homer's masterpiece called the *Iliad* instead of the *Achilleid*, from Achilles, whose wrath is the basis of the poem ?
READER.

In reply to this correspondent we will say that Pope does call the *Iliad* the *Achilleid*, and the *Odyssey* the *Odysseid*. See his introduction to the *Odyssey*, p. xxii, ("Chandos Classics"). It is generally conceded that Peisistratus compiled the *Iliad* from the collected songs previously gathered. The *Iliad* took its name from Ilium or Ilion, and Ilium from Ilus the fourth king of Troy, he being son of Tros. From Tros came the name Troy. Æneas had a son by Creusa (sister of Hector) named Ascanius. He was called "Little Iulus" from Ilus. From Iulus came Julius, Julia, July, etc.

Pope says, "could France have given birth to a Tasso, Tancred would have been the hero of *Jerusalem Delivered*."

The *Odyssey* took its name from Odysseus ("Nimrod" II, p. 89, says Hodyseus), or Ulysses. Rev. A. Herbert, author of "Nimrod," says Hodyseus wore long hair, because of a vow he had taken prior to going to Troy, on account of Helen, from which he was called the *Comet*, that is "long-haired."

Several of the more prominent actors in the Trojan war were closely related by marriage, or otherwise.

The brother kings Agamemnon and Menelaus married sisters Clytemnestra and Helen, who were sisters of the twin-brothers Castor and Pollux.

The two bravest Grecian heroes were Achilles son of Peleus and Ajax son of Telemon who were first-cousins, Peleus and Telemon being brothers and sons of Æacus.

The bulwarks of Troy were Hector and Æneas who were brothers-in-law, Æneas having married Creusa a sister of Hector.

Asytanax called also Scamandrios son of Hector and Andromache, and Ascanius called also Iulus son of Æneas and Creusa, were first-cousins.

"GNOMOLOGIA HOMERICA," BY DUPORT. (N. AND Q., Vol. VIII, p. 369.) We do not recall having ever seen an English translation of Duport's Greek work on Homer. There is a copy of the Greek in the Boston Public Library.

"OM MANI PADMA HUM." What is the English of this sacred inspiration of the Buddhists? ALMA.

Among the sacred literature of the natives of Thibet is the historical book called "Mani Kambum," containing the legendary tales of Padmapani's propagation of Buddhism in Thibet, and the origin and application of the sacred formula, *Om mani padma hum*. It contains a history of creation, prayers to Padmapani, and the advantage of the frequent repetition of "Om mani padma Hum;" the meaning of that sacred sentence; and an account of the figurative representations of Padmapani. The mystic sentence is repeated in worship, and is constantly heard as one moves about the country. It has been translated in three forms:

1. Om, the jewel of the lotus!
2. Hail to him of the jewel and the lotus!
3. Glory to the lotus-bearing Hum!

DISCOVERY OF AMERICA FORETOLD. Does any one claim that the discovery of America was foretold in prophecy, or is such an event mentioned by any author prior to the Columbian discovery? W.

This correspondent should obtain and read Charles Sumner's work entitled "Prophetic America," in which are a collection of predictions which are claimed to point to America. Any well-selected library should have the book.

At this writing there occurs to us a passage in the works of Seneca, found in his *Metæa*, which seems, in the age of Nero, to have foretold at that time the future discovery of America, an event which took place 1400 years after its prediction. Here are the words:

" Venient annis secula seris,
Quibus Oceanus vincula rerum.
Laxet, et ingens pateat tellus
Tethysque novos detegat orbes
Nec sit terris Ultima Thule."

Translation—"The times will come in later years when ocean may relax the chain of things, and a vast continent may open; the sea may uncover new worlds, and Thule cease to be the last of lands."

Edward V. Kenealy, in his "Book of God," pp. 573, 637, says the ancient name of the Americas was *Chi-Xi-Bau* (Chixibau), and that Revelation XIII, 18, was prophetic of America: "And his number is Chi-Xi-Bau" (Chi, 600; Xi, 60; Bau, 6; = 666). This in the Hebrew is *Shin-samek-vau*. Not so euphonious as America, Columbia!

6 6 6—The Number of a Man.

J. E. Clarke, author of "Dessertation on the Dragon, Beast, and False Prophet of the Apocalypse," says the following triangle is regularly formed by the numerals from 1 to 36; that the sum of this arithmetical series is 666. That he finds the foundation of this pyramid in the book, "Translation of the New Testament," by the author of the "Christian Code," and "Primitive History."

The sum of each horizontal line is also the line of equilibrium of the series of magic squares as follows: 1, 5, 15, 34, 65, 111, 175, and 260.

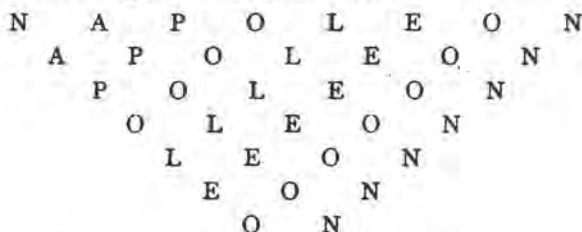
The diagonal line on the right is the series of triangular numbers.



The name of Napoleon has long been associated with the number of the Beast in its dative form, *Napoleonti* (To Napoleon):

N 50, a 1, p 80, o 70, l 30, e 5, o 70, n 50, t 300, i 10 = 666.

The Napoleonic Triangle is given in a similar manner to the Abracadabran Triangle, the letter being dropped at the beginning instead of the ending of the word, as follows:



"Napoleon, apoleon, poleon, oleon, leon, eon, on."

"Napoleon, the lion of the people, was the destroyer of whole cities."

A DEAD MAN TO HIS FRIENDS.

(Read at the obsequies of Col. John Badger Clarke, November 2, 1891.)

Faithful friends, it lies I know,
 Pale and white and cold as snow
 And ye say 'the dear one's dead,'
 Weeping at the feet and head,
 I can see your falling tears,
 I can hear your sighs and prayers;
 Yet I smile and whisper this:
 I am not the thing you kiss;
 Cease your tears and let it lie;
 "It was mine; it is not I."

Sweet friends, what the women lave
 For its last sleep in the grave
 Is a but which I am quilting,—
 Is a garment no more fitting,—
 Is a cage from which at last
 Like a bird my soul has passed.
 Love the inmate, not the room;
 The wearer, not the garb; the plume
 Of the eagle, not the bars
 Which kept him from the splendid stars.

Loving friends, be wise, and dry
 Straightway every weeping eye;
 What ye lift upon the bier
 Is not worth a wistful tear.
 'Tis an empty sea-shell,—one
 Out of which the pearl has gone;
 The shell is broken,—it lies there;
 The pearl, the all, the soul is here.
 'Tis an earthen jar whose lid
 Allah sealed the while it hid
 A treasure of his treasury,
 A mind that loved him; let it lie.
 Let the shroud be earth's once more,
 Since the gold shines in his store.

Allah glorious, Allah good,
 Now thy world is understood;
 Now the long, long wonder ends;
 Yet ye weep, my erring friends,
 While the one whom ye call dead
 In unspoken bliss, instead,
 Lives and loves you; lost 'tis true,
 By such light as shines for you;
 But in the light ye cannot see
 Of undisturbed felicity—
 In enlarging paradise,
 Lives a life that never dies.

Farewell, friends, yet not farewell;
 Where I am ye too shall dwell.
 I am gone before your face,
 A moment's time, a little space:
 When ye come where I have stepped,
 Ye will wonder why ye wept;
 Ye will know by true love taught,
 That here is all and there is naught.

Weep awhile if ye are fain—
 Sunshine still must follow rain;
 Only not at death—for death
 Now I know is that first breath
 Which our souls draw when they enter
 Life, which is of all life center.

Be ye certain all seems love,
 Viewed from Allah's throne above;
 Bravely onward to your home,
 Thou love divine, thou love away.

Poems of the Epic Cycle.

The Trojan chapter of the epic cycle contained eight poems, Homer's *Iliad* standing second, and his *Odyssey* seventh. The other six are known as the cyclic epics, and some of them presuppose the *Iliad*, being planned to introduce or continue it; in some copies of the *Iliad* the *Aethiopis* was actually pieced on to the 24th book. It would appear that the *Iliad* must have existed, in something like its present compass, as early as 800 B. C.; indeed, a considerably earlier date will seem probable, if due time is allowed for the poem to have grown into such fame as would incite the effort to continue it. As compared with the *Iliad* and *Odyssey*, the Cyclic epics show the stamp of a later age in certain ideas,—as hero-worship, purifying rituals, etc.: in a larger circle of geographical knowledge, and a wider range of mythical material.

The external evidence of the epic cycle thus confirms the twofold internal evidence of Homeric matter and Homeric language. The bulk of the Homeric poems must be older than 800 B. C., although some particular additions to them later.

1. *Cypria*; 11 books. Author, doubtful (Stasînus of Cyprus?) Date, about 776 B. C.

Subject: Zeus resolves to reduce the burdens of the teeming earth by a great war, and sends Discord to the wedding of Peleus and Thetis. 'Judgment of Paris,' giving the prize to Aphrodite. Paris carries off Helen. War of Troy down to the point at which Zeus resolves to help the Trojans by withdrawing Achilles. Hero of the epic — Paris. The *Cypria* seems to have been a sort of chronicle, beginning from the first cause of the Trojan War, and going down to the point at which the *Iliad* opens.

Non-Homeric traits: Apotheosis of the Dioscuri who in Homer (*Il.* 3, 243) are merely dead men.—Story of Iphigenia whom the *Cypria* distinguished from Homer's Iphianassa, (*Il.* 9, 145). Story of Palamedes. Helen is now the daughter of Nemesis — who, pursued by Zeus, changes into many shapes to elude him. Cassandra has the gift of prophecy, which Homer does not give to her.

2. Homer's *Iliad*.

3. *Aethiopis*; 5 books. Author, Arctinus of Miletus, about 776 B. C.

Subject: After the funeral of Hector (*Iliad* 24), the Amazon queen, Penthesileia, comes to the aid of Troy. Her death. Exploits and death of Memnon. Death of Achilles. Ajax and Odysseus contend for his arms: the latter obtains them. Hero of the epic—Achilles,

Non-Homeric traits: The worship of men after their death as 'heroes' (Achilles and Memnon being made immortal). A ritual of purification from the guilt of homicide, under the favor of Apollo.

4. *Little Iliad*: 4 books. Author, doubtful (Lesches of Mitylene?). Date, about 700 B. C.

Subject: Trojan war, from the award of the Achilleah arms to Odysseus, down to the capture of Troy: including the return and healing of Philoctetes, and the episode of the wooden horse. Hero of the epic—Odysseus.—The poem seems to have been directly inspired by the tone of the *Odyssey*, and to have had more material in common with Homer than any other of the Cyclic epics.

Non-Homeric traits: The magic Palladium (image of Pallas), on which the fate of Troy depends. Story of Sinon (Virg. *Aeneid* 11). Story of Aethra, mother of Theseus, carried off from Attica by the Dioscuri.

5. *Iliupersis*: 2 books. Author, Arctinus of Miletus, about 776 B. C.

Subject: The Trojans resolve to dedicate the wooden horse on their acropolis. Laocoon and one of his sons are killed by serpents. Aeneas and some followers, warned by this potent, retire from Troy to Mount Ida. Fall of Troy. Departure of the Greeks. Hero of the epic—Neoptolemus, the son of Achilles.

Non-Homeric traits: Episode of Laocoon and flight of Aeneas. Sacrifice of Priam's daughter, Polyxena, at the tomb of Achilles—indicating hero-worship. Other points (as the stories of Sinon and Aethra) are common to this poem and the *Little Iliad*.

6. *Nostoi*: 5 books. Author, Agias of Troezen, about 750 B. C.

Subject: The adventures of some heroes on their return from Troy, chiefly those of Menelaus, who visits Egypt, and of Agamemnon, who is slain by Clytaemnestra. The poem was a sort of tragic *Odyssey*, bridging the passage from Homer to Aeschylus.

Non-Homeric traits: Death of Calchas, on meeting a greater seer than himself (Mopsus, at Colophon). Journey of Neoptolemus to Epeirus—where the Molossi are first named. The shade of Achilles warns Agamemnon of his doom. The enchantress Medea.

7. *Homer's Odyssey*.

8. *Telegonia*: 2 books. Author, Eugammon of Cyrene, about 666 B. C.

Subject: Telegonus, son of the enchantress Circe by Odysseus, unwittingly slays his father in Ithaca. Made aware of his sin, he takes his sire's corpse, with Telemachus and Penelope to his mother. She makes the living immortal: Telegonus is wedded to Penelope, and Telemachus to Circe. In the earlier part, Odysseus was made to marry a Thesprotian queen, Callidice. Here is seen the wish to work in genealogies of families claiming descent from Odysseus.

Fool Friends.

[R. G. Ingersoll in the National Illustrated Weekly.]

Nothing hurts a man, nothing hurts a party so terribly as fool friends.
A fool friend is the sower of bad news, of slander and all base and unpleasant things.

A fool friend always knows every mean thing that has been said against you and the party.

He always knows where your party is losing, and the other is making large gains.

He always tells you of the good luck your enemy has had.

He implicitly believes every story against you and kindly suspects your defence.

A fool friend is always full of stupid candor.

He is so candid that he always believes the statements of an enemy.

He never suspects any thing on your side.

Nothing pleases him like being shocked by horrible news concerning some good man.

He never denies a lie unless it is in your favor.

He is always finding fault with his party, and is continually begging pardon for not belonging to the other side.

He is frightfully anxious that all his candidates should stand well with the opposition.

He is forever seeing the faults of his party and the virtues of the other.

He generally shows his candor by scratching his ticket.

He always reaches every nook and corner of his conscience to find a reason for deserting a friend or a principle.

In the moment of victory he is magnanimously on your side; but in defeat he consoles you by repeating prophecies made after the event.

The fool friend regards your reputation as common property, and as common prey for all the vultures, hyenas, and jackals.

He takes a sad pleasure in your misfortunes.

He forgets his principles to gratify your enemies.

He forgives your maligner and slanderer with all his heart.

He is so friendly that you cannot kick him.

He generally talks for you, but always bets the other way.

HAND-SHAKING. Where is this custom first mentioned? ASA.

Brewer's "Historic Note-Book" (p. 820,) says shaking hands to confirm a bargain is mentioned in II Kings x, 15; by Aristophanes, *Nubes* 18; Virgil, *Æneid* I, 403. Brewer says Homer mentions it, but gives no reference. In modern times the custom is English.

APCENTRON AND PERICENTRON. (N. AND Q., Vol. VIII, p. 170.) We have searched out Samuel Elliott Coues' works to learn the use of the words *apcentron* and *pericentron* as referred to by "J. J. J." Their analogy to apogee and perigee, aphelion and perihelion being observable furnished a partial definition. We quote the use of them from his "Studies of the Earth; an Essay on the Figure and Surface-Divisions of the Earth, its Geological and Meteorological Phenomena, and its Astronomical Elements," Washington, D. C., 1860, 4to., p. 53 :

"Let now a fact be recalled, that both the earth's figure and its orbit are elliptical. The perigee of the orbit, that is, its ellipticity, revolves. Likewise, in symmetrical relation, *the ellipticity of the earth's figure revolves*. The periods of both revolutions are the same, namely, 110,340 years. To the orbit of the earth, around the sun, there is an aphelion and a perihelion, and to the orbits of the earth's axial rotation there is an *apcentron* and a *pericentron*. This must needs be, because, considering the ocean-surfaces, if continued around the earth, to constitute a true sphere, the more elevated land of one hemisphere constitutes an ellipticity of figure, which is so correlated to the ellipticity of orbit that the one, as has been shown, is calculable from the other. The movement which transfers the ellipticity of form around the earth in 110,340 years is indeed slow ; and, like the growth of a tree, it is unperceived. It is known that by it continents have been submerged and others relifted from the waters."

THE HEBREW MELODIES. What are the poems called the "Hebrew Melodies," and where found ?

SIXTEEN.

The "Hebrew Melodies" are a series of poems written by Lord Byron at the request of a friend, and published in 1815. They can be found in any complete edition of Byron's works, and include these :

She walks in beauty.	All is Vanity.
The Harp the Monarch Minstrel Swept.	When Coldness wraps this suffering Clay.
If that High World, The Wild Gazelle.	Vision of Belshazzar.
Oh, weep for those, On Jordan's Banks.	Sun of the Sleepless.
Jephtha's Daughter, Oh ! snatched away in beauty's bloom.	Were my bosom as false as thou deem'st it to be.
My Soul is Dark.	Herod's Lament for Mariamne, on the Day of the Destruction of Jerusalem by Titus.
I Saw Thee Weep, Thy Days are Done.	By the Rivers of Babylon.
Saul.	The Destruction of Sennacherib.
	A Spirit passed before me.

"AVONKELAJON" This is the name of a book said to have been written in the second century of the Christian era by Simon Ben Kalpus, who S. Baring-Gould identifies with Simeon Ben Chelptu. The book "Avonkelajon" is said to be an Evangelium, and gives us the account of the change of the alphabet and the new names given to the letters by its author, thus :

A, Be, Ce, De, E, Ef. Cha, I, Ka, El, Em, En, O, Pe, Ku, Er, Es. Te, U, Ix, Ejed, Zet.

Are we to believe that Simon Ben Kalpus invented the Roman Alphabet ? This account is found in Baring-Gould's "Lost and Hostile Gospels," also an anonymous work entitled "Revelations Concerning Christ and Christianity."

"WIMODAUGHSIS" This is the name of an educational and benevolent institution in Washington, D. C. It is managed by an efficient board of directors composed entirely of women, Rev. Anna H. Shaw being president, and Emma J. Woodard, secretary. The derivation of the name is of sufficient interest to be recorded. Wimodaughsis is made from the first of each word, *wives, mothers, daughters, sisters—Wimodaughsis*. This is pronounced *Wi* (*i* like *i* in *wives*), *mo* like *mo* in *mother*, *daugh* (which has the accent) like *daugh* in *daughter*, and *sis* like last syllable of *thesis*. The word is smooth—*Wi mo daugh'sis*.

GREEK ALPHABET. (N. AND Q., Vol. VIII, p. 243.) Your correspondent "A. G. L. A.," gives a line containing the Greek alphabet in four words, and solicits a translation which does not seem to be forthcoming. I send you two lines which I transliterate from the "Dessertation on the Life and Writings of Tryphiodorus," prefixed to his poem on "The Destruction of Troy being the Sequel of the Iliad," by J. Merrick. These lines contain the Greek alphabet, and will some of your readers give a free translation of them? O.

Zouktheis plerois eklagxe bombode psophon,

Abrochiton d' ho phulax therouxgokampsimetopos.

"AMERICAN MANCHESTER." This continental name has been bestowed upon Lowell, Mass., on account of its cotton mills. Ghent is called the "Manchester of Belgium." Elberfeld is called the "Manchester of Prussia," its specialty being "Turkey Red." The "Manchester Poet" was Charles Swain (1803-1874, an English poet

Homeric Questions.

1. Were the goddesses Circê and Calypsô one and the same personifications (*Odyssey* VIII, 259 ; X, 230) ?

2. What are the games called Penelope and *Pentalithismus*, as referred to in the classics ?

3. How many cities were there by the name of Thebes, and where was each located ?

4. How many suitors were there seeking the hand of Penelope, and did she intimate any preference ?

5. Who is considered the best authority that Homer was *not* blind because the name Homer means *blind* ?

6. How is the word Aeaea (*Aiaîe*) pronounced, the name of the home of Circê (*Odyssey* X, 135) ?

7. Is our word *odious* derived from the same root as *Odysseus* as quasi-stated in Palmer's translation (*Odyssey* p. 308) ?

8. From whom came the quotation, "Homer sometimes nods," and where found ?

9. Where can be found the account of the "Contest of Homer and Hesiod," for the superiority of verse, and who won ?

10. What was the game of dice over which Patroclus became enraged and killed Clysonymus (*Iliad* XXIII, 87) ? The Greek word is *astrâgâlos*, the root of Astragalomancy.

11. Which of the ancient Sibyls called Homer a false poet, and what was the language used ?

12. Who divided the *Iliad* and *Odyssey* each into 24 books by according to the letters of the Greek alphabet ?

13. We are told in the *Odyssey* (VII, 70) that "the strife of Ulysses and Achilles was a song the fame of which then reached the wide heavens," which time was at least ten years subsequent to the Trojan war. Is any further account of that strife in any of the classics ?

14. Calypso is a word which means *The Concealed*. The Biblical word Apocalypse is derived from this word, a *not*, calypso *concealed*, or *Revelation*. Does Homer use the word *calypso* in the *Iliad* ?

15. What is the modern herb which is supposed to correspond to the *Moly*, herb of virtue, "That Hermes once to wise Ulysses gave" (*Odyssey* X, 305).

16. St. John Vincent Day, in his work on the pyramids, says that *pyramids* are first mentioned by Homer. Where are they spoken of ?

LLEWELLYN.

Chronologic Questions.

1. Who is called the "Father of Chronology," and why? Who called *astronomy* and *chronology* the "two eyes of history"? What science is called the "parent of chronology"?

2. William Hales' "Analysis of Chronology, Geography, History, and Prophecy," Vol. I, p. 101, says the beginning of the Julian Period (7980) was 4714 B. C. How is it that the various almanacs for 1892 give 6605 as the Julian Period for 1892? Is Hales correct?

3. What is the "Victorian Period," and on what is it based and by whom invented?

4. It is said that Newton was in error in his system of chronology and fell short of the accepted era of the world by 300 years in one particular calculation; in what date was the error made?

5. What people introduced the custom, and names of *sevensnight* for seven days or a week, *fortnight* for fourteen days or two weeks, and when did such custom begin?

6. How many and what years, in the nineteenth century, was there no *full moon* in the month of February?

7. In what work is found the first recorded mnemonic of "Thirty days has September," etc.? also, the dominical mnemonic, "At Dover Dwells George Brown Esquire," etc.?

8. It is stated that the first book known to have been printed in the English language was by William Caxton, and entitled "The Recuyell of the History of Troy." When did this occur?

9. George R. Gliddon, in "Types of Mankind," p. 667, says that the "Nabornassarian Era" (February 26, 747 B. C.) is the only ancient chronological era that is positively fixed. How is it established?

10. The Antient and Primitive Rite (Freemasonry) use the letters A. V. L. (*An du Vraié Lumière*) Year of True Light, 000,000,000. How is this explained?

11. Among the Greeks were certain years called by them Embolisms, or Embolismic years; what were they and why so called?

12. Who is the author of the anonymous work entitled "Palmoni; An Essay on the Chronological and Numerical Systems in use Among the Ancient Jews," London, 1851. 8vo., pp. 681.

13. What is the minimum and maximum limits of the great, or "Platonic Year" so called as calculated by various chronologists?

LLEWELLYN.

QUESTIONS.

(QUESTIONS UNANSWERED IN VOL. VIII.)

1. What is meant by "critical error" as mentioned by Augustus DeMorgan in his work on the "Theory of Probabilities"? (242)
ORR.
2. Are the pair of numbers, 4,831,837,184 and 4,827,120,640 amicable numbers, as said to be in Thomas Taylor's "New Arithmetical Notation," p. 146? (242)
CALEB CANNON.
3. Where can the "Hymn to the Sun," by Martianus Capella be found? (242)
* * *
4. Why is the number 5 regarded as "the evil number," by the Egyptians, as stated by Sir Gardner Wilkinson? (242)
J.
5. "To construct an equilateral triangle whose area shall be equal to that of a given square." Proposed by Prof. Totten in his work, "An Important Question in Metrology," p. 190. (242)
H. H. H.
6. "He must increase, but I *must* decrease" (John III, 30.). From whom did John the Baptist quote these words? (258)
BENOTH.
7. What is the form of the geometric figure called the "phyloid"? (273)
LOGOS.
8. Where can the poem "On the Sun," by Monnus, be found? (273)
ALBION.
9. What are said to be the seven gifts of the Holy Spirit (*Sacrum Septuarium*)? (273)
SEVEN.
10. Why are the sufferings of Jesus, at the crucifixion, called "The Passions"? (273)
M. A. B.
11. Who were the Orpheotolites? (273)
L. C. W.
12. What is the meaning of the four names of stars in the constellation Libra, namely, *Zubenescamali*, *-elgemabi*, *-hokrabi*, *-elgubi*? (273)
G.
13. What is the rule for transliterating Greek words containing the Upsilon? Should it be *Psuche* or *Psyche*, *Huram* or *Hyram*, *Hiram*? (274)
LOTOS.
14. Which letter of the alphabet is called the *digamma*, or double gamma, and why? (274)
JARED.
15. What form of argument is meant by *Socratic Elenchus* and *Socratic Sorities*? (322)
A. W. POOLE.
16. Where can be found the facsimile of the "hand-writing on the wall"? (322)
J. S. H.

MISCELLANEOUS

NOTES AND QUERIES,

WITH ANSWERS.

"When we walk toward the Sun of Truth, all shadows are cast behind us."
 —HENRY WADSWORTH LONGFELLOW.

VOL. IX.

FEBRUARY, 1892.

No. 2.

WINGED WORDS. (Vol. I, pp. 12, 54, 65.) A correspondent asks, "Whence comes the expression *winged words*?" As this is answered quite indefinitely by two correspondents, I will add a few words as to the use of that expression. Dr. E. M. Epstein's remark as to George Buchman's claim to the first use of the words may be correct, but Mr. Buchman must have been ignorant of their use in the Homeric poems.

"PRIGGLES" is more to the point as far as it goes. The expression, "*winged words*" is from the *Iliad*, first used (I, 201) where Achilles addresses Minerva ("with *winged words* he cried"). The Greek is ΕΙΗΕΑ ΙΙΤΕΡΟΕΝΤΑ ("epea pteroenta," and is the motto on the title-page of John Horne Tooke's "*Diversions of Purley*," a work on philology. In the *Odyssey* is found the expression, "but his words were unwinged" (xxi, 390), that is, his words were moderate. Some phonographic serials have used the words appropriately, as well as metaphorically like Homer.

JOHN HORNE.

THE LOGOS. (Vol. VIII, pp. 369, 404.) Wearily will one search the *Dialogues* of Plato for the introductory words of the "Gospel of John." The doctrine of the proem of that Gospel is Gnostic rather than Platonic. In the "Apocalypse of Marcus" it reads that the Father, who is super-essential, uttered the Word which is like himself. This Word, or Logos, being next to Him, is the Manifest Type of the Invisible. The first verse of the Gospel is a similar sentiment.

A. WILDER, M. D.

Factors in Human Evolution.

BY S. V. EDGE, MADRAS, INDIA.

THEOSOPHY.

There are few religions, systems of thought, or philosophies which have not in some way or other helped on the progress of Humanity. Every earnest thinker studies as far as possible all forms of belief, in the hope of finding satisfactory answers to his many perplexities, and every fair-minded person is ready to admit that a comparative study of religions is rapidly becoming an important and very necessary factor in our lives. It is a curious fact, and perhaps a significant one, that in this busy and hurrying age of ours such a preëminently philosophical system of thought as that embodied under the term Theosophy should attract the attention of so many thinkers. That so-called modern unbelief is the outcome of the impracticability of attempting to reconcile science and logical hypotheses with our present form of Christianity, is a fact generally admitted; but this of itself would not appear to be the sole reason why so many are turning their attention to more philosophical forms of thought. The world is beginning to see and to understand the key to life's tangled problems and to the many mysteries of existence to be found within

MAN HIMSELF

rather than without. This is not a thoughtful age: few people have the time or opportunities for quiet thinking, and the majority of those who have are content to allow others to do their thinking for them. Perhaps it is this very hurry of existence which is driving some to take refuge within themselves and to endeavor as far as possible to evolve answers to their numerous perplexities from their own inner consciousness. Schopenhauer clearly points out in his

WISDOM OF LIFE

that a man's happiness depends on himself and his interior state, not on his surroundings. Theosophy shows the first lessons to be learned are those of self-knowledge and self-conquest. Self-knowledge, that man may in some measure obtain the key to the workings of human nature in its creation of harmony or discord; self-conquest, that he may use himself purely as a factor for that perfection of the human race for which we are all striving.

Great reformers of the past have always been deep thinkers, otherwise they would have left no mark on the world. How many of our

modern Socialists have really given an earnest study to the *primary* causes producing the effects they are striving to destroy? Theosophy should merit the approval of all workers for humanity when it fearlessly asserts, as it does, that the practical realization of the ideal of

UNIVERSAL BROTHERHOOD

is to be found in man individually. Men must first be taught to entertain brotherly feelings toward their fellows and to recognize fully the universal oneness of humanity, and that the good of the whole is to be preferred to individual benefit. No reform will ever succeed unless based on the comprehension of the idea that such should come by the individual efforts of men, and from within rather than from without.

In studying the various causes and forms of human misery, we must necessarily look for some factor or agent either directly or indirectly causing them. Theosophy teaches that man himself is the cause, that each individual is his own absolute lawgiver, the dispenser of doom or glory to himself, decreer of his life, his reward, his punishment. And how is man thus the cause of his own suffering? Simply by transgressing

ETERNAL LAWS,

by working against Nature instead of with her, by retarding evolution and progress instead of helping it forward. This law which punishes man, or, rather, through which man brings punishment upon himself, is vested in the hands of no personal God; such a being is not needed. The conception of a

UNIVERSAL LAW

of adjustment and equilibrium, acting in the moral and spiritual world as well as in the physical, will be found on consideration to be a reasonable one. In the simple phenomena of natural philosophy the law of action and reaction is of course apparent.

Briefly, suffering and misery and all our various ills are but the outcome of disturbed equilibrium. A man setting in motion certain forces, equilibrium can only be maintained by the return of those forces to the point from which they originated. As a man sows, so shall he reap; good for good, and evil for evil. This universal law is known in the East as the

LAW OF KARMA.

Theosophists have adopted the word as a concise and convenient one. Again, what answer has Theosophy to give to the old, old questions of the why and wherefore of existence? To gain experience, is the answer. Without going into any abstruse metaphysical problems, Theosophy may be said to postulate the idea that

THE SOUL OF MAN

through a series of mundane experiences, or earth-lives, perfects itself and gradually attains to a condition of clear self-consciousness. It is only through a union with matter and by the assimilation of earthly experiences that the soul of man can reach its highest state of consciousness and become "as a god, knowing good and evil," and the cause thereof, and of all existence. This persistence of a unity of consciousness, or soul, through a series of lives, is known as

REINCARNATION.

The lines along which this evolution of consciousness proceeds are determined by the above-mentioned law of adjustment, or Karma; and it will readily be seen that these two teachings of Reincarnation and Karma are inseparably and mutually interdependent.

Here, therefore, are two leading teachings of Theosophy capable, in themselves alone, of offering a reasonable explanation of life's problems. Differences of birth, social position, and so on, and those advantages which a man, brings into the world with him, and which is his "stock in trade," can only be explained on the theory that he has passed through previous existences and that the present life is but the continuation of the past; that as he has lived in the time gone by, so, according to his action in the present, he will merit a good or bad environment in the future. Given, the belief that a man has a fate and a future in his own hands, and an absolute free will, self-respect (that virtue so sadly lacking in these days) will naturally follow. Given, self-respect in the absolute conviction that "the soul of man is immortal, and its future the future of a thing whose growth and splendor have no limit," we shall in time do away with all religious factions and parties, all bigotry and materialism, and develop into

BEINGS GOD-LIKE

in comparison to what we are now. Every one in these times of doubt and dissatisfaction with orthodox beliefs owes to the world the duty of endeavoring to throw some light on the unexplored paths of existence; and a careful study of Theosophy and its teachings will amply repay all earnest truth-seekers and workers for humanity, and perhaps give to them some of those keys for which they have been so long and vainly searching.

"THE MAN WHO LAUGHS" is by Victor Hugo, instead of Dumas, as stated by "DEXTER," on page 124 of Vol. VII. J. G. G.

Rara Mathematica.

The following tracts of *rara mathematica* are worth recording for the purpose of bibliographical reference in future. Title-pages given :

A Treatise on the Doctrine of Numerical Series, both ascending and descending ; also the Binomial Theorem, with integer and fractional exponents.

$$(P+QP)^{\frac{m}{n}} = P^{\frac{m}{n}} + \frac{m}{n}AQ + \frac{m-n}{2n}BQ + \frac{m-2n}{3n}CQ + \frac{m-3n}{4n}DQ +$$

By Alonzo Jackman, M. A., Professor of Mathematics in Norwich University. 8vo. pp. 56. Claremont, N. H., 1846.

A New Key to the Exact Sciences ; or a new and practical theory by which Mathematical Problems or Algebraic Equations of almost every description can be solved with accuracy, and with greater facility and simplicity than they can be by any method that has yet been given ; in which are also introduced a variety of useful and interesting problems that have never before been proposed, and which it is believed cannot be solved by any methods or rules except those here laid down. By Francis Tillett. 8vo. pp. 64. Winchester, Va., 1824.

A Tract on Possible and Impossible Cases of Quadratic Duplicate Equalities in the Diophantine Analysis ; to which is added a short but comprehensive appendix, in which most of the useful and important propositions in the *Theory of Numbers* are very concisely demonstrated. By Matthew Collins, B. A., Senior Moderator in Mathematics and Physics, and Bishop Low's Mathematical Prizeman, Trinity College, Dublin. *Nil tam difficile est quod non Solertia Vincat*, Pythagoras regarded Arithmetic as the noblest Science, and an acquaintance with Numbers as the highest good. 8vo. pp. 60. Dublin, 1858.

"I own I was greatly surprised, disappointed and grieved, at finding two Boards of Education (from which I *foolishly* expected active assistance) so extremely illiberal and penurious as to refuse giving me the least help. Alas ! how really useless to a country are such corporations, who would sooner let discoveries in science perish than advance one shilling to forward their publication or to assist native talent." (Extract from preface.)

The Root Extractor, exhibiting new rules and processes, for the formation and resolution of Equations of all Orders in Algebra ; and for the evolution of the roots of any power in numbers ; serving likewise as a key to all the examples in Bonycastle's Introduction to Algebra. By Timothy Clowes, LL. D. 12mo. pp. 68. Hempstead, N. Y. 1831.

A Method of Approximating toward the Roots of Cubic Equations belonging to the Irreducible Case. Appendix : A method of affording some facility to the resolution of quadratic equations. By John Lockhart. 8vo. pp. 88. London, 1813.

$$x^3 - bx = c \text{ and } bx - x^3 = c$$

"Methods of resolving equations by approximation ought to be considered of the highest utility, and as being absolutely necessary to the completion of the doctrine of the resolution of algebraic equations, which is the most important branch of the science of Algebra."

"Now, little book ! go forth into the world without fear or apprehension, for thou art engaged in the cause of truth. Present thyself to those whose lamps are always burning. Enter into the study and retired room ; but tarry not among those archives where the works of the renowned Abraham Sharp are mouldering in obscurity. If thou visitest the colleges, perhaps thou mayest be greeted ; but if a more retired life should please thee, thou mayest seek the parterres of Argyle, and perhaps be welcomed by some gardener's boy ; or, perchance, some shepherd may take thee to those lofty fells where thy master made thee, and place thee on the honied ling while his flock is feeding." (Extract p. 82.)

"I would ask the managers of the Royal Society of London, how they can expect that the chief end of their institution should be fulfilled, namely, '*To make the way more passable to what remains unrevealed*,' if they disdain the offerings of thinking men?" (Extract p. 88.)

Researches on Curves of the Second Order, also on Cones and Spherical Conics treated Analytically, in which the Tangencies of Apollonius are investigated, and general geometrical constructions deduced from analysis ; also several of the geometrical conclusions of M. Chasles are analytically resolved, together with many properties entirely original. By George Whitehead Hearn. 8vo. pp. 83. London, 1846.

New Combinations in Respect to the Binomial Theorem and Logarithms ; and a new discovery of one general root theorem for the solution of equations of all degrees ; the equation, $X^x = A$, or any similar one not excepted. Designed for such as first study some simpler work on algebra, and desire to have a more perfect knowledge of that useful branch of mathematics. By Joseph B. Mott. 8vo. pp. 50. Detroit, 1855.

Curvature. A Fragmentary Essay on Curves. By Thomas Hill. 8vo. pp. 30. Boston and Cambridge, 1850. Book First. This is all that was published.

Translation of Quotations.

The following quotations in the last three volumes have not heretofore been responded to with a translation :

(Vol. VI, p. 267.) Jordano Bruno's Triads. Bruno was roasted alive, Feb. 17, 1600.

Efficiunt totum Casus, Natura, Voluntas ;
Dat triplicem mundum Deitas, Natura, Mathesis ;
Hinc tria principia, emanant Lux, Spiritus, Unda ;
Est animus triplex Vita, Seusu, Ratione.

*Calamity, Nature, and Will bring everything to pass ;
Deity, Nature, and Astrology give a threefold world ;
Hence emanate three principles, Light, Spirit, and Water ;
The mind is threefold with Life, Affection, and Reason.*

(Vol. VI, p. 268.) Ludolph Van Ceulen, in his work on the circle, closes his speculations with these lines : TYRO.

Constat ergo numerus rite esse inventus,
Cujus rei soli Deo debetur gloria.

Therefore, it is consistent with reason that numbers should have been invented, the glory of which thing is due to God alone."

(Vol. VII, 40.) The following hexameters refer to the sacrifices of Cain and Abel. The first line refers to the offering of Abel (Gen. iv, 4). The second line is the reverse of the words in the first, and refers to the offering of Cain (Gen. iv, 3) :

Sacrum pingue dabo non macrum sacrificabo.
Sacrificabo macrum non dabo pingue sacrum.

I will give a sacrifice full of fat ; I will not sacrifice a lean offering.

(Vol. VIII, p. 402.) Rev. Algernon Herbert, in his "Nimrod," Vol. II, p. 552, says that the maxim put into the mouth of Ulysses, contains the whole *Odyssey* in two lines. Where does Ulysses repeat these lines : X.

Nate Dea, quo fata trahunt requahuntque sequamur,
Quidquid erit, superanda omnis fortuna ferendo est.

Son of a goddess, we follow wherever the fates lead us back. All fortune, whatever it shall be, must be endured and overcome.

(Vol. VII, p. 72.) The following lines are handsomely written on the back of the dedicatory leaf of a copy of Richard Laurence's translation of the "Ascension of Isaiah the Prophet," Oxford, 1819:

LLEWELLYN.

Infra nomen meum pono
Quia librum puden nolo
Si puden voluissem
Nomen hic non posuissem.

*I place my name below because I am not ashamed of the book.
If I had been ashamed I should not have placed my name below.*

(Vol. VIII, p. 98.) The following line is quoted by a biographical author, and a reader desires a literal translation : R. K. D.

Prædam acceleravit spoliâ festinado.
He hastened the booty by hastening the spoils.

(Vol. VIII, p. 283.) The following lines, by Thomas Lansius, are from Francis Maseres's "Doctrine of Permutations and Combinations, being an Essential and Fundamental part of the Doctrine of Chances," p. 49, London, 1795 :

Lex, rex, grex, res, spes, jus, thus, sal, sol, (bona) lux, laus ;
Mars, mors, sors, lis, vis, styx, pus, nox, fex, (mala) crux, fraus.

Law, king, society, property, hope, justice, incense, salt, sun, light, and fame are good ;

War, death, fate, strife, violence, poison, rot, darkness, dregs, torture, and fraud are evil.

(Vol. VIII, p. 322.) The following is a saying from Poor Richard's Almanac : B. C.

Nec sibi, sed toto, genitum, se cedere mundo.

Not for himself, but for the whole world, ought one to think himself to have been born.

(Vol. VIII, 369.) The following is on the title-page of the work by Benedict Hilarion, entitled "Echo Colloquii" : ZOE.

Augustis, Augusta, viis petit ardua virtus,
Non datur, ad cœlum currere lata via.

High virtue, Augusta, seeks the narrow path ; nor is it given to attain to heaven by the broad road.

(Vol. VIII, p. 325.) The following is from a church-yard in Germany. Said to be a familiar passage of scripture from the Vul gate Where is it found? The English seems to be as translated below :

H.

O superbe quid superbis? Tua superbia to superabit.
Terra es et in terram ibis. Mox eris quod ego nunc.

Oh proud one, what art thou among the proud? Thy pride shall be thy ruin.

Dust thou art and to dust shalt thou return. Soon thou shalt be what I now am.

LAUGHING AND WEEPING PHILOSOPHERS. (Vol. IV, pp. 253, 286.) Democritus of Abdera, a celebrated philosopher of antiquity, contemporary with Socrates ; he was so called because he always made a jest of men's follies and sorrows, his feeble struggles and evanescent works. The word applied to him by his fellow-citizens was *Gelasinos*, "the derider." He was contrasted with another of his contemporaries, Heraclitus of Ephesus who is said to have been called the "Weeping Philosopher," because of shedding tears on account of the follies and vices of mankind. He was surnamed *Ho Physikos*, "the Naturalist," and wrote a work, "On Nature." The work was called *skoteinos* "the obscure," of which fragments are extant. He was of the Ionian school. He says of progression, — "No one has ever been twice on the same stream."

Democritus, Junior, was a pseudonym under which Robert Burton (1576-1640) published his "Anatomy of Melancholy," a work which presents in quaint language a view of all the modifications of that disease, and the method of curing it.

ABADDON AND APOLLYON. (VIII, p. 322.) We doubt if any pupil ever read these words as *Abandon* and *Napoleon* in Revelation IX, 11. The words sound much like those of Mrs. Partington's blunders, as given by that American humorist, B. P. Shillaber. She is said to have greatly feared that her son "Ike" would become "a probable son." The imaginary old lady was much distinguished for her misuse of words, like Smollett's "Tabitha Bramble," and Sheridan's "Mrs Malaprop."

ARCANE DISCIPLINE. (Vol. VIII, p. 427.) I think the basis of Mr. Temple's paper on this subject is erroneous. I take it that Origen affords us a key, when he says that to the liberal-minded they taught the historic Christ, but that to the spiritually-minded they give the *Word* (LOGOS). The Arcane Discipline was the ancient Egypto-Greek mystery of the spiritually-perfected man — the Osirian, the Christos. Yet for some centuries they seem to have gone hand in hand. The liberal was the symbol of the spiritual. The pre-Jesus ceremonials have been continued by Freemasons, Gnostics, Rosicrucians, etc. The Rose Croix degree was the Master of the Cherubim and Seraphim Mason, as the Hiramic Master was of the Semitic. Much learned information on these subjects will be found in Gerald Massey's "New Lectures," and "Book of Beginnings."

JOHN YARKER, Manchester, Eng.

NEW CONNECTICUT. (Vol. I. p. 288.) Western Reserve; a name popularly given to a tract of country reserved by the State of Connecticut, at the time of the cession of the Northwest Territory to the United States. Disputes arose, after the war of the Revolution, between several of the States, respecting the right of soil of this Territory, which were only allayed by the cession of the whole to the United States, Connecticut reserving a tract of 3,666,921 acres near Lake Erie. In 1800, jurisdiction over this tract was relinquished to the Federal government, the State reserving the right to the soil, and disposing of it in small lot to settlers, from which sales the State obtained magnificent school funds, while the Indian titles to the rest of the soil were bought up by the general government.

"PLATO, THOU ART AN AUDIENCE IN THYSELF." (Vol. II, p. 590.) I have not yet observed any answer as to who uttered this quotation under the circumstances stated. But we have a modern performance on record that might opportunely be stated at this time. Prof. Francis Brünnow, of Leipsic, lectured at the Michigan University, in 1856, on astronomy. His class consisted solely of James C. Watson. Dr White happily remarked, "that was the best audience that any professor in Michigan ever had." "Brünnow with his pupil Watson,"

says Prof. Cajori, "reminds us of Gauss, of Göttingen, who lectured at that great university to less than half a dozen students, while Thibaut, a mathematician of no scientific standing, presented the elements of mathematics to audiences of hundreds." "If I had choice," said Hankel, "I should prefer being Gauss to Thibaut." The story goes that Watson decided between mathematics and Greek, as his specialty, by throwing up a penny. "There slips a penny," says he, "for which?" (See Prof. J. C. Freeman's address, of University of Wisconsin, in *Ægis* Vol. I, No. 37, June 24, 1887; and "Circular of Information," No. 3, 1890, p. 246.) I will add that I am pleased with *NOTES AND QUERIES*, and the great variety of subjects it discusses. Also, your readers must appreciate your practice of giving references for the sources of information.

REMBRANDT ROBINSON.

NEGATIVE SQUARES. (Vol. VI, p. 404; VIII, p. 273.) Some one asked for a "negative square." Here is an equation that will produce such a square:

Find such a value of x as will render $10+x$ and $10-x$ each a rational square.

It is convenient to change the signs of one of the binomials, so that x may appear under the same form in both, which gives

$$\begin{aligned} m^2 &= 10+x, \\ n^2 &= -10+x. \end{aligned}$$

Subtracting, $\frac{m^2 - n^2 = 20.}{m^2 - n^2 = 20.}$

Assume $m+n=10.$

Then $m-n = \frac{20}{10} = 2.$

Adding, $2m=12$, or, $m=6$, and $m^2=36.$

Subtracting, $2n=8$, or $n=4$, and $n^2=16.$

Substituting the value of m^2 , in the first equation,

$$36=10+x, \text{ or, } x=36-10=26.$$

Substituting the value of n^2 , in the second equation,

$$16=-10+x, \text{ or, } x=16+10=26, \text{ as before.}$$

Proof: $10+26=36=6^2$; and $10-26=-16=(\pm 4)^2$, or, $-4 \times 4.$

Hence, the result is a curious negative square.

R. K. D.

RATIO OF THE CIRCLE AND THE SQUARE. (Vol. I, pp. 46, 71; III, pp. 97-132; VI, p. 294; VIII, p. 383.) We have received a tract on the value of π , by E. J. Goodwin, M. D., Solitude, Ind. Propositions:

First, a new physical truth:

"All change depends on an inequality in the adjustment of forces, whereby particles and aggregates compress to and repel from centers, while acting in lines least resisting.

Second, a new ratio of the circle:

"A circular area is equal to the square on a line equal to the quadrant of the circumference; and the area of the square is equal to the area of the circle whose circumference is equal to the perimeter of the square."

"For instance, let $\pi = 4$, instead of 3.1416, and $Q = \frac{1}{2}$ of the quadrant of the circumference; then πQ^2 will express the numerical measure of a circle, with its circumference and perimeter of the resultant square exactly equal. The employment of four illustrations will suffice to show a wide difference in their relative values, and which of the two is the correct measure.

	Circumferences.	Diameters.	Areas by $(\pi)Q^2$	Areas by $(\pi)R^2$
(1)	4	1.2732+	Unity.	1.2732+
(2)	16	5.0928+	16	20.3712+
(3)	32	10.1856+	32	81.4848+
(4)	1024	32.59392+	65536	83440.4352+

"No man can tell how the above ratio was found. The copyright in the United States is hereby offered as a prize to any living mathematician who will determine the fact in one year's time. If the fact fails to appear at the expiration of one year the author will make public the means whereby he was enabled to find that the square on $\frac{1}{4}$ the circumference expresses the exact measure of a circle.

"A prize of \$10,000 is offered to any scientist who proves able to find an exception to the first statement as a new physical truth.

"A prize of \$10,000 is offered to the mathematician who proves able to ascertain the means whereby the above new ratio of the circle was found.

"These prizes will be awarded to the successful claimants during the World's Fair, at Chicago, where the author expects to demonstrate in person or by proxy, the fact, that to America is due the credit of having squared the circle and circled the square.

"Address all letters for the author to the care of Walter H. Willis 911 G Street, N. W., Washington, D. C."

THE CABIRI, (Vol. VI, 396 ; VII, 2.) George Stanley Faber, in his "Mysteries of the Cabiri," essays to show the ancient Cabiri were eight in number ; that they were Noah and his family saved in the ark, namely, Noah and his wife Noemah, Shem and his wife Salith, Ham and his wife Nahlah, Japhet and his wife Arisivah. Noah espoused Cabira (Noemah or Naamah), who became the mother of three Cabiri, and the three Cabiræ. The Cabiri are said to have built the first ship. The four with their wives were the Ogdoad. Faber makes Agruerus (the husbandman) to be Noah (*Sydyk*, the just man), Genesis vi, 9. Cronus Junior is made Shem ; Jupiter-Belus, Ham ; Apollo, Japhet. The family besides Noah were the Seven Cabiri, the Seven Titans. They were worshipped under the names of Dioscori, Corybantes, Curetes, Idei, Dactyli, Anactes, and Telchines.

ZUBENE-SCHAMALI, -ELGEMABI, -HAKRABI, -ELGUBI. (Vol. VIII, p. 273.) These peculiarly-named stars are in the constellation Libra (the Scales). Zubena in Arabic means purchased, or ransomed. 1. Schamali, the purchase which recovers raiment. 2. Elgemabi, the purchase or price which is deficient. 3. Hakrahi, the redemption of the conflict. 4. Elgubi, the purchase heaped up high. All undoubtedly applied to the four stars outlining the Scales to remind us of primitive Arabian trade.

SARDONIC SMILE. (Vol. II, pp. 639, 668.) The Sardonic Smile is from the Greek *sardanion*, a grin, sarcastic. It is used by Homer in the *Odyssey* (xx, 302), "And he (Ulysses) smiled in his mind with a very Sardonic smile." It is also used in the *Sibylline Oracles* (1, 180) "Sardonic smiles will ye laugh, let me say." Spenser, in his *Faëry Queen* (v, 9) says, "And with Sardonian smile laughing at her, his false intent to shade."

THE TAROT. (Vol. VII, p. 146.) The term Tarot, or Tarocchi, is applied to a pack of 78 cards, consisting of four suits of 14 cards each (there being one more court card than in the ordinary pack, the Cavalier, Knight, or Horseman), and 22 symbolic picture-cards answering for trumps. These latter are numbered from 1 to 22 inclusive. The design of the trumps are singularly called Death, Devil, Hades, and the like. The work on the Tarot can be obtained of a bookseller.

Astronomic Questions.

1. Why is Texas called the " Lone Star " ? Which State is called " Star of the North " ?
2. What is the difference between an asterism and a constellation ?
3. What poem has this quotation, " Led by the light of the Mæonian Star ? " The Mæonian Star is said to refer to Homer.
4. Why is the planet Uranus sometimes called " Gorgium Sidus ? "
5. What person received the name of " Julium Sidus " ?
6. Who wrote the line, " An undevout astronomer is mad " ?
7. We are told that " astonished " etymologically means *thunder-struck* ; " lunatic," *moon-struck* ; " disaster," *star-struck*. When were these astrologic words first used ?
8. " Planets " are mentioned once in the Old Testament (11 Kings xxiii. 5), and once in the New Testament. Where ?
9. What star is estimated to be the nearest to the earth ?
10. Why are the three stars in Orion's belt known as the " Ell and Yard," called *Jacob's Rod* ?
11. It is stated that the two stars, Rotanen and Scalovin, in the constellation *Delphinus* are the names of two astronomers whose names are spelled backward slightly changed. Who were they and when did they flourish ?
12. A work on astronomy is quoted as saying the Zodiac is divided into signs, decans, and *abraxoids*. What division is an *abraxoid* ?
13. Give illustrations of a star rising and setting *acronycally*, *cosmically*, and *helically*.
14. Can any reader give the title of the work, or author's name, published about 1862, giving the mathematical and astronomical calculations of the time for the appearance of a second satellite to this earth ?
15. What is the present official arrangement of " stars " on the U. S. Flag, for the 44 States ?
16. In Hoyle's poem on the *Exodus* (b. vi, 627-645), he makes Moses speak of a comet as being one of the causes of the deluge. Where does Moses intimate this ?
17. What great star was at or near the summer solstice when the line of the equinoxes was at right angles to the line of the apsides ? (See Hanna's " Celestial Dynamics," p. 21.)

LLEWELLYN.

Biblical Questions.

1. Dr. E. V. Kenealy in his six volumes on the Wisdom-Religions, endeavors to prove that the Apocalypse of John is the Revelation of Oannes (Adam), the first book of the Bible and should precede Genesis, when rightly translated, and pruned of its interpolations. What other divines support the same views ?

2. How many books are there in the Douay version of the Bible ?

3. Where in the Bible is the first library mentioned ?

4. What book would be placed first if chronologically arranged as written ?

5. Where in the pentateuch is the first song quoted or repeated ?

6. What is said to be the reason that St. Paul, in his epistles, never quoted from, or referred to, the four Gospels ?

7. Where is the only place in the New Testament that a reference is made to the Old Testament by giving the chapter ?

8. Which one of the " Seven Wise men of Greece " is referred to and quoted by Paul ?

9. Why were just seventy (Septuagint) persons selected to translate the Hebrew Scriptures into the Greek tongue ?

10. Where is the name Christ first mentioned in the Old Testament ?

11. What person is mentioned in history who it was said could repeat the entire Bible by heart ?

12. Does any other evangelist except Matthew mention the " star in the east " ?

13. What Biblical scholar says the words quoted by Jesus on the cross (" *Eloi, Eloi, lama sabachthani* "), mean " My God, My God, how thou dost glorify me " ?

14. Where in the Old Testament are " the twelve signs " of the Zodiac referred to ?

15. What book of the Bible was the first to be put into English in its entirety for use ?

16. The word " Agnostic " is from *agnosto* ; *a*, not, and *gnosto*, to know. We find in Acts xvii, 23, the Greek "*Agnosto Theo*," " To the Unknown God," according to King James's version. " To an Unknown God," according to Revised version, while others say it might mean " To some Unknown God." Is the Greek *Agnosto* elsewhere used in the New Testament ?

QUESTIONS.

(QUESTIONS UNANSWERED IN VOLUME VII.)

1. Where can be found the several official arrangements of the stars on the U. S. Flag from original states to the present? (p.194)
JULIUS.
2. What is the " Clovis Fag " of France, mentioned in historical works? (194)
HERBERT.
3. Where can be found the account of 23½ hours of time of which it is said " it is dumb and will be dumb forever " ? (See *Microcosm* for November, 1890.) (194)
A. A. Q.
4. What is recorded as the longest unbroken hereditary dynasty. (194)
DEXTER.
5. What author does Herbert Spencer refer to in his " Philosophy of Style," who uses words of " sesquipedalian length," or words a foot and a half long—prosodical feet? (194)
LOGOS.
6. What is the explosive "Tomite"? (194)
R. ROBINSON.
7. Is the origin, possibilities, and destiny of the soul the secret aimed at by the authors in the following books: Henry James, in his " Secret of Swedenborg "; James Hutchison Sterling, in his " Secret of Hegel "; Ernest De Bunsen, in his " Hidden Wisdom of Jesus " ? (194)
PHILANDER.
8. Who are said to be the present " forty immortals " of the French Academy? (162)
R. K. D.
9. How many and what imitations of Homer's *Iliad* have been written? (146)
NESTOR.
10. Could a person standing on the equator make a catalogue of all the stars of the heavens? (146)
NESTOR.
11. What were the treasures of Islam? (98)
D. M. DRURY.
12. Give the names of the fifty Nereides. (72)
LOGOS.
13. Who were called " the nine worthy women of the world " ? (8)
D. M. DRURY.
14. Where was Troy in Egypt situated, built by Semiramis? (See " Nimrod," Vol. II, p. 443.) (98)
SEARCHER.
15. What was the " remarkable planetary configuration," said to have occurred at the birth of Swedenborg? (72)
R. K. D.

CATECHESIS ARCANI.

A PAPER READ BEFORE THE SOCIETAS ROSICRUCIANA, MASSACHUSETTS
COLLEGE, BOSTON, JANUARY MEETING, 1892.

BY S. C. GOULD, VIII^o

<LUX>

In a reprint of a monograph on the "Ancient Catechesis Arcani," by Theodore Temple, several names have suggested a brief study of words for comparison in derivation and etymology. "The Secret Discipline" is referred to in ecclesiastical history by nearly all of the church fathers, either esoterically or exoterically.

I. TUMBOXEIN.

We are told of a certain pass-word anciently in use that was expressive of a symbolical representation of the state of death to the restored and undying existence of a realistic future.

The Greek word *TUMBOXEIN* (Tymbochein), is a word meaning *to be entombed*, and which, this author adds, has been supplanted in modern Masonry, by a name not in accordance with the sequence of the degree. He claims the innovation was made by a *lapsus linguæ*.

Hutchinson, in his "Spirit of Masonry" (p. 109,) in an article on the third degree, says:

"The Mason, advancing to this state of Masonry, pronounces his own sentence, as confessional of the imperfection of the second stage of his profession, and as probationary of the exalted degree to which he aspires, in a Greek distich, *Tumbochoeo*, (Struo tumulum)—

'I prepare my sepulchre ; I make my grave in the pollution of the earth ;
I am under the shadow of death.'

This distich has been vulgarly corrupted among us, and an expres-

sion takes its place scarcely similar in sound, and entirely inconsistent with Masonry, and unmeaning in itself."

The first use of the word *Tumbochoé* is found in Homer's *Iliad* (xxi, 323), where the river Scamander threatens Achilles that "there forthwith shall be thy *tomb*." Herodotus, in his "Ancient History" (vii, 117), uses the word, and says, "Xerxes erected a *monument* to the memory of Artachæses."

According to Liddell & Scott (p. 1530), the word is the same as *Tumbon chéein*, and is defined "to throw up a cairn or barrow." John Walker, in his "Clavis Homerica" (p. 268), defines the word, "to raise a mound of earth."

According to Hales' "Chronology," Solomon, King of Israel, lived B. C. 1050-990. White's "Life of Homer" says Homer lived B. C. 1043-952; thus showing Solomon and Homer to have been cotemporaries. There are other peculiar uses of words in the works of the latter which will be referred to in the sequel.

Charles Scott, in his "Commentary on the Universal Laws and Principles of Ancient Masonry" (pp. 314-315), has the following, which is interesting to one engaged in the study of words:

"Our Grand Masters entered into a covenant or contract with their workman, which is particularly referred to in Masonic history. It was made under peculiar circumstances, and was to have been performed upon certain conditions. It was not an uncommon custom under the Jewish law to take a pledge, a security, or assurance for the performance of a promise or contract. A man's word or affirmation was not always taken as an assurance that he would fulfill his promise. So Judah gave pledges to Tamar. Judah said unto her, 'I will send *thee* a kid from the flock. And she said, Wilt thou give *me* a pledge till thou send *it*?' (Gen. xxxviii, 17)."

Scott further says the same word translated "pledge" (*Arrabona* in the Septuaginta) is translated "earnest" in the New Testament, "Who hath also sealed us, and given the earnest of the Spirit in our hearts" (11 Cor. i, 22). Thus it appears that the *pledge* of Moses (*Arabon*) is the *earnest* of St. Paul.

Adam Clarke says the word properly signifies an *earnest* of something promised, the giving and receiving of which a bargain is ratified, or a deposit, which was to be restored when the thing promised was given. He says the *earnest* of the Spirit is an *earnest* of the

heart, from which we learn, that all who can produce this *pledge* — this *Arrabon*—this *word*, at the last great day shall be invested with the *word* of eternal life.

The "Spirit of Masonry" (p. 140) continues the sequel, and says the remainder of the distich (*Vehementer cupio vitam*) is then most forcibly impressed on one's mind :

"I ardently wish for life."

2. EURAMEN.

The acquisition of the doctrine of a new life is expressed in the typical character of the Greek *HURAMEN* (Euramen), *discovery*, or *invention*. By the application of that name, with Masons, says Hutchinson, is implied the discovery of the knowledge of God, and the passing from death unto life. The root-word is found in Homer's *Odyssey* (xix, 403), where Autolycus is told to *invent* a name to be given to his grandson. Autolycus invented a name, and said :

"My son-in-law and daughter, give him the name I say. Since I come here odious to many men and women on the bounteous earth, therefore Odysseus be his name. And I, when he is grown and visits the great palace of his mother's kin upon Parnassus, where my possessions lie, will give thereof to him and send him home rejoicing,"—*George H. Palmer's Translation*, p. 308. Boston, 1891.

3. SIBBOLITHON.

That peculiar word which is recorded to have been used as a test for the separation of two peoples, has been the polemic subject of Masonic writers. Thus, *SIBBOLITHON* (Sibolithos) according to Hutchinson, has been derived from the roots *sibo lithos* (cherished stone). The Romans would say *Colo Lapidem*, which implies that they retain and keep inviolate their obligations, as the *Furamentum per Jovem Lapidem* (oath by Jupiter Lapis), the most binding oath honored amongst the ancients. It is probably derived either from the stone which was presented to Saturn by his wife Ops, who said it was Jupiter, in which sense Eusebius says that Lapis reigned in Crete; or from *Lapide Salice*, the flint stone, which in making bargains, the swearer held in his hand, and said :

"If, knowingly, I deceive, so let Diespeter, saving the city and capital, cast me away from all that is good, as I cast away this stone."

The stone was then thrown away. This ceremony by some has been connected with the *Abraxas stones* which has been a subject of much speculation by mystical writers and cannot be elaborated here.

"The way of wynnyng the faculty of Abrac," mentioned in the Leland Manuscript No. 36, is thought to have been connected with Abraxas.

The word *Shibboleth*, said to mean "plenty," and also "waterfall," and sometimes "water-ford," is also translated "floods" (Ps. LXIX, 2). *Shibboleth shetafatni* ("the floods overflow me").

4. TECHNITES.

The genealogy of the line of Adam through Cain as given in the Phenician history by Sanchoniathon is interesting as a chapter in the study of words. The two genealogies placed side by side as given by George S. Faber, in his "Mysteries of the Cabiri," (Vol. I. p. 46), are as follows:

- | | |
|-----------------------|-----------------------------|
| 1. Protogonus, Eon. | 1. Adam, and Eve. |
| 2. Genus, Genea. | 2. Cain, and his wife. |
| 3. Phos, Pyr, Phlox. | 3. Enoch, and his brethren. |
| 4. Cassius, Libanus. | 4. Irad, and his brethren. |
| 5. Memrumus. | 5. Mehujael. |
| 6. Agreus, Halieus. | 6. Methusael. |
| 7. Chrysor. | 7. Lamech. |
| 8. <i>Technites</i> . | 8. Tubal-Cain. |

The name of the eighth, *TECHNITES*, signifies an *artisan*, and we are told that Tubal-Cain was "an instructor of every artificer in brass and iron" (Gen. iv, 22); for "artificer" the margin reads *whetter*. This Tubal-Cain is recorded as having two brothers, Jabal and Jubal. Sanchoniathon only mentions one brother of Technites, whom he calls *Gēinus*.

Hellanicus says the first cherubic forms were made by Tubal-Cain (*Technites*), and consisted of the head of a *Horse*, a *Lion*, a *Man*, and a *Vulture*; that the face of the *Man* was *Prosōpon* (face of God).

Buttmann, in his "Mythology" (i, 164), not only compares these names, but adds to the comparison the *Telchines* of Rhodes, the first workers in copper and iron (Strabo, xiv, 654), and *Dwalinn*, the *dæmon* smith of the Scandinavians. Gesenius proposed an etymology that is a hybrid; *tūpal*, iron, and *kain*, a smith, but this is considered doubtful. The name *Tubal*, it will be observed, is elsewhere associa-

ted with silver, brass, iron, tin, and lead (Ezekiel xxvii, 12-13).

The "Revelations of Methodius" calls Tubal-Cain the last of the Cainites, *Thoulousiel*; that is, "Ioubel and Thoulousiel."

An extract from the "Legends of the Craft," as recorded in the Dowland Manuscript No. 26, will prove interesting in this sequel:

"Before Noyes floode there was a man called Lameche as it is written in the Byble, in the iiiijth chapter of Genesis; and this Lameche had two wives, and the one height Ada and the other height Sella; by his first wife Ada he gott two sonns, and that one Jabell, and thother Tuball. And by that other wife Sella he gott a son and a daughter. All these four children founden the begining of all the sciences in the world. And this elder son Jabell found the science of Geometrie, and he departed flocks of sheepe and lambs in the field, and first wrought house of stone and tree, as is noted in the chapter above said. And his brother Tuball found the science of Musicke, songe of tonge, harpe, and orgaine. And the third brother Tuball Cain found Smithcraft of gold, silver, copper, iron, and steele; and the daughter found the craft of Weavinge. And these children knew well that God would take vengeance for synn, either by fire or by water; wherefore they writt their science that they had found in two pillars of stone, that they might be found after Noyes flood. And that one stone was *marble*, for that would not bern with fire. And that other stone was *celepted laterns*, and would not drown in noe water."

5. ELIUN HYPsISTUS.

George S. Faber, in his "Mysteries of the Cabiri" (Vol. I, p. 43), says the these words *ELIUN HYPsISTUS* mean "God the Most High" (Gen. xiv, 18), and that Sanchoniathon called this Being *Elion* the *True God* and Father of Uranus and Ge, or *Heaven* and *Earth*.

Alfred F. Chapman, in his monograph on "The Tetragrammaton" (p. 11), gives information on the etymology of this compound word *Eli* and *on*, and discusses an alleged corruption, but recommends that the modern practice be continued and be guarded from further innovation. He quotes many authorities.

Plato, in his *Timæus*, says "Tell me of the God *On*, which *Is*, and never knew beginning." The author of the *Apocalypse* recognized the "*On*, kai ho en, kai ho erchomenos," ("*Him* which is, and which was, and which is to come" (Rev. i, 4). Thomas's ejaculation has been quoted by Masonic writers, as having recovered ancient oral knowledge (John xx, 28).

6. TETRAGRAMMATON.

Reghellini says the Tetragrammaton is "The basis of our dogma and of our mysteries."

Mr. D. S. Margoliouth, in 1884, while examining an Ethiopic manuscript in the Bodleian Library, then recently acquired, found it to contain the *Preces Magicae XII Discipulorum* ("The Magical Prayers of the Twelve Disciples"). It contained the magical names of Jesus which are said to have been communicated by him to his disciples (folio 6^b), and is as follows, vocalization unchanged :

"And after that he told them his names : *Iyâhê*, (i. e. terrible) ; *Sârâhê*, (i. e. great) ; *Demânêl*, (i. e. mighty) ; . . . *Meryon*, (i. e. all-watching) ; *O'e*, (i. e. helper) ; *Aphrân*, (i. e. saviour) ; *Manâtêr*, (i. e. shepherd) ; *'El*, *'El*, (i. e. protector of all) ; *Akkâ*, (i. e. patient) ; *Elôhê*, (i. e. supporter of all) ; . . . *Yâwê*, *Yâwê*, (i. e. faithful, just)."

It will be observed that here are eleven esoteric names corresponding with the number who were to meet the Master at an appointed time and place (Matt. xxviii, 16), and the interpretations correspond with his words in the sequel.

Mr. Margoliouth observed that the vocalization of the last name is almost exactly the same as by Epiphanius and Theodoret (*'Iabê*), or *Iave*, *Yâwê*.

Albert G. Mackey, in his "Encyclopædia" (p. 378), says that the Tetragrammaton varied in pronunciation by the patriarchs, namely : Mathuselah, Lamech, and Noah pronounced it *Juha* ; Shem, Arphaxad, Selah, Heber, and Peleg, *Jeva* ; Isaac, and Judah, *Jova* ; E z rom, and Aram, *Jero* ; Aminadab, and Naasson, *Jevah* ; Salmon, Boaz, and Obed, *Johe* ; Jesse, and David, *Jehovah*.

Enoch, Jacob, and Moses, not mentioned with these names, had had the true pronunciation revealed to them ; and we may add that Jesus was in possession of it—four men.

McClintock & Strong (iv, 810) refer to the Greek writers, and church fathers, giving the following, with references, as examples :

Clemens Alexandrinus, Diodorus Siculus, Hesychius, Irenæus, Jerome, Origin, Porphyry, and Tzetzes say the Deity was called *IAO*.

Ewald, prefers *Jahve* ; Hengstenberg, *Jahveh* ; Hölemann, *Jehovah*.

FIAT LUX

Rosicrucians Rules.

(From "Proanos of the Temple.")

1. *Love God above all.*

To "love God" means to love wisdom and truth. We can love God in no other way than in being obedient to Divine law; and to enable us to exercise that obedience conscientiously, requires knowledge of the law, which can only be gained by practice.

2. *Devote your time to your spiritual advancement.*

As the sun without leaving his place in the sky sends his rays upon the earth to shine upon the pure and the impure, and to illuminate even the most minute material objects with his light, likewise the spirit of man may send his mental rays into matter to obtain knowledge of all terrestrial things; but there is no need that the spirit should thereby lose its own divine self-consciousness, and be itself absorbed by the objects of its perception.

3. *Be entirely unselfish.*

Spiritual knowledge begins only where all sense of self ceases. Where the delusion which causes man to imagine himself to be a being separated and isolated from others ends, there he begins to realize his true state as an all-embracing universal and divine self-conscious power.

4. *Be temperate, modest, energetic, and silent.*

The door to the inner temple is called "Contentment"; but no animal can enter therein, only he who walks uprightly, being conscious of his true dignity as a human being. Without energy, nothing can be accomplished; and only in the silence, when all thoughts and desires are at rest, can the Divine harmonies penetrate to the internal ear.

5. *Learn to know the origin of the METALS contained within thyself.*

Ignorance is the cause of suffering. That which is material must be crucified and die, so that that which is spiritual may be resurrected and live.

6. *Beware of quacks and pretenders.*

He who claims to be in possession of knowledge knows nothing; only he through whom the Word of wisdom speaks is wise.

7. *Live in constant adoration of the highest good.*

The worm seeks for pleasure among abomination and filth; but the free eagle spreads his wings and rises up towards the sun.

8. *Learn the theory before you attempt the practice.*

He who travels with a trustworthy guide will be safer than he who refuses to profit by the experience of another.

9. *Exercise charity towards all beings.*

All beings are one in the spirit, divided from each other merely by the illusion of form. He who is charitable towards another form in which the universal One Life is manifest, saves suffering to his own self.

10. *Read the ancient books of wisdom.*

Books are to the unripe mind that which the mother's milk is to the nursing. We must receive drink from others until we have gained sufficient strength and experience to descend to the living fountain within ourselves, and to draw from there the water of Truth.

11. *Try to understand their secret meaning.*

That which is external may be seen with the external eye, but that which is spiritual can only be seen with the eye of the spirit.

These are the eleven which ought to be followed by those who desire to enter the temple of the Rosy Cross; but the Rosicrucians have a *twelfth* rule, an *Arcanum*, in which great powers reside, but of which it is not lawful to speak. This Arcanum will be given to those who deserve it, and by its aid they will find light in the darkness, and a guiding hand through the labyrinth. This Arcanum is inexpressible in the language of mortals, and it can, therefore, only be communicated from *heart to heart*. There is no torture strong enough to extract it from the true Rosicrucian; for even if he were willing to reveal it, those who are unworthy of it are not capable of receiving it.

Rosicrucians Duties.

1. To alleviate suffering and to cure the sick without accepting remuneration.
2. To adopt the style of their clothing to the costumes of the country wherein they reside for the time being.
3. To meet once a year in a certain place.
4. Each member has to select a proper person to be his successor.
5. The letters R. C. are the the emblems of the Brotherhood.
6. The existence of the Brotherhood is to be kept secret for one hundred years, beginning from the time when it was first established.

MISCELLANEOUS

NOTES AND QUERIES,

WITH ANSWERS.

"The life of man stands much in need of calculation and number."—

EPICHRMUS.

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No. 3.

Hymn to the Sun.

"Sublime Power of an Unknown Father, or his first Branch (Propago) Ardor who bestowest sensation, *Source of the soul*, Origin of light, great Ornament of Nature, Affirmation of the gods, Eye of the world, Splendor of the bright Olympus: Thou who alone canst see thy Father above the heavens, and contemplate the Supreme Being Latium names thee Sun, since thou alone, after thy Father, attainest the pinnacle of the light As thou dost dissipate the darkness and illumine that which is in the azure of the heavens, they call thee Phœbus, thou who revealest the secrets of the future and makest clear the crimes of the night. The Nile venerates thee by the name of the bountiful Serapis; Memphis sees in thee Osiris; the barbarous races Mithra, Pluto or the cruel Typhon. Thou art the beautiful Attis, and the divine BOY of the bent and bountiful plough, Ammon for the sands of Libya, Adonis for Byblus. Thus the universal world invokes thee by different names. Hail, veritable Image of the gods and of thy Father's face!" — "*Spirit History of Man*," p. 54.

HYMN TO THE SUN. (Vol. VIII, p. 242.) Martianus Mineus Felix Capella is supposed to have lived in the latter part of the fifth century, A. D. His great work is in nine books. The last edition is that of U. F. Copp, quarto, Frankfort, 1836. His "Hymn to the Sun" is in Book II, p. 54. An English version of a considerable part of it is in S. F. Dunlap's "*Vestiges of the Spirit History of Man*," New York, 1858, pp. 250-251; and reference is made therein to Mover's "*Phoenixer*," Vol. I, p. 266, and to Nonnus, Marcellus's edition, Notes; p. 170.

WM. EMMETTE COLEMAN.

A NEW PHYSICAL TRUTH. By E. J. Goodwin, M. D., Solitude, Indiana, June 10th. 1885. Evansville, Ind. 1885. 8vo. pp. 32. Dedicated to Daniel Kirkwood, LL. D., Professor of Mathematics in the Indiana University.

" THE ONE LAW OF THE UNIVERSE.

All change depends on the adjustment of force with resistance, without which no force can act, be manifested, correlated and conserved, whereby particles and aggregates compress to and repel from centres, and dynamically act in lines of least resistance.

NEWTON'S THREE LAWS OF MOTION.

LAW I. Every body preserves in its state of rest or of moving uniformly in a straight line, except so far as it is made to change that state by external forces.

Let us express his first law in terms of the law of adjusted forces.

A BODY AT REST OR IN MOTION PERSISTS IN ITS STATE OF LEAST RESISTANCE, AND ITSELF CAN DO NO MORE THAN OCCUPY SPACE CONTINUALLY WITH TIME.

LAW II. The change of motion is proportionally to the impressed force, and takes place in the direction in which the force is impressed.

We can express this second law in terms of one, thus :

THE CHANGE OF THE MOMENTUM OF A BODY, ACTING IN A LINE OF LEAST RESISTANCE, IS EQUAL TO THE RESISTANCE ENCOUNTERED BY OTHER MATTER, and takes place in the direction from which the resistance is offered. For instance, Résultant motion, defined by the diagonal of a perfect square, represents a credit of equal resistance allowed to material agents contributed at right angles. If the resistances vary, the parallelogram of forces will be changed accordingly.

LAW III. Action and reaction are always equal and opposite; that is to say, the actions of two bodies upon each other are always equal and in opposite direction.

To be consistent, let us define his third law in terms of one, as we have done in the first and second :

THE MUTUAL RESISTANCE OF TWO BODIES IS ALWAYS EQUAL AND OPPOSITE ; THAT IS, IF TWO BODIES COLLIDE IN ANY MANNER, THEY DO NO MORE THAN EXCHANGE EQUAL WORK UPON EACH OTHER. IF TWO BODIES OF EQUAL MOMENTUM DIRECTLY COLLIDE, THEY EXCHANGE EQUAL WORK BY ARRESTING THE MOTION OF EACH OTHER, AND THEIR RESISTANCES ARE ALWAYS EQUAL AND IN OPPOSITE DIRECTIONS.

'Of course these definitions apply only in cases where the resistance

between two bodies is not changed by the resistance of some other body ; then the changes in their respective momenta, induced by their mutual resistances on colliding, are equal and in opposite directions. The changes in the velocities of the two bodies are also in opposite directions, but not equal, except when their masses are equal. In cases of the collision of two bodies of unequal masses, the changes of velocities are in the inverse ratio of the masses."

EDITOR : What you have published as "a new physical truth" (Vol IX, No. 1, cover p. 7) is implied in the former statements of Newton and others, and is only a part truth, and therefore not new.

My statement, which is both new and true, reads thus :

All change depends on an INEQUALITY in the adjustment of forces, whereby particles and aggregates compress to and repel from centres, while acting in lines least resisting.

The above statement resolves all change into *motion* by an inequality of the adjustment of force with resistance. This is the one law which persistent research has been seeking for many years. This it is that harmonizes Religion and Science. Mr. Herbert Spencer says the most abstract truth in our intelligence affords the needful ground on which Religion and Science must stand in support of each other.

E. J. GOODWIN.

We republish the statement as found at the beginning of Dr. Goodwin's pamphlet, which appeared with the notice of his "New Physical Truth," in our January number (1892), together with his re-statement of Newton's three laws, and his statement, which he says is new.

TWO EYES OF GREECE. (Vol. VII, p. 8.) A name given to Athens and Sparta, the most celebrated of all the Grecian cities. So Milton : "Athens, the eve of Greece, mother of arts and eloquence." (*Paradise Regained* IV, 240-241).

TWO EYES OF HISTORY. (Vol. VIII, p. 23.) Astronomy and chronology may be said to be so called, yet we have seen it stated that *chronology* and *geography* are the two eyes of history—time and place. Elijah H. Burritt, "Geography of the Heavens," p. 54, says "astronomy becomes the parent of chronology."

Joseph Justus Scaliger, 1540-1709, is called the "Father of Chronology." (See Brewer's "Hand Book for Readers," p. 187.)

SEARCHER.

KALYPSO AND CIRCE. (Vol. IX, p. 22 [1].) Mr. C. F. Keary considers Calypso and Circê as the same. "Each is very Death herself." They however personified different principles. Kalypso is the sky of Night that with the morn and stars illumines the cave in which she dwells. True the Ocean of the west contained the Islands of Blessed Souls, and Kronos in the character of Rad-amanthos (Ra-t-Amerti) presided there. She was so named because she veiled (*ekalypse*) Odysseus on his return from Ilion.

Kirkê is an oriental genius, and Hermes is less bold with her than with Kalypso. The name signifies a circle in Greek; and we should probably regard her as the moon-goddess. She is the same as the Assyrian Istar and the Phœnician Astarté.

A. WILDER.

KALYPSO AND KIRKE. (Vol. IX, p. 22 [1].) Robert Brown, Jun. published in 1883 "The Myth of Kirkê," quoting from Milton's *Comus* (49-59), "Who knows not Circe, the daughter of the Sun?" In section II, he compares the two mysterious goddesses, a process which shows that though the one is not actually a reduplication of the other, yet that they are merely variant phases of the same great power.

1. Each is a fair and lovely goddess in a remote island, attended by handmaidens.—*Odyssey* v, 109; x, 343.
2. Each is connected with gold and silver, and weaves a mighty web as she sings.—*Ibid* v. 62; x, 222.
3. Each is specially described as "fair-haired."—*Ibid* v, 30; xi, 8.
4. Each is specially styled "an awful goddess of mortal speech."—*Ibid* x, 136; xii, 449.
5. Each has a beautiful dwelling surrounded by woods.—*Ibid* v; x.
6. Each loves the hero who unwillingly returns her passion, and whom she is not permitted to retain.—*Ibid* v, 155; ix, 29-33.
7. Each swears solemnly not to injure the hero.—*Ibid* v, 182-187; x, 345.
8. Each sees that he is bathed and dressed.—*Ibid* v, 264; x, 364.
9. Each at dawn "clad herself in a great shining robe, light of woof and gracious, and about her waist cast a fair golden girdle, and put a veil upon her head."—*Ibid* v, 230-232; x, 546-547.
10. Each when the hero departed sent a "welcome breeze" to speed him on his way.—*Ibid* v, 268; xi, 7; xii, 149.

THE OCEANIDES. These were sea-nymphs, daughters of Oceanus and the goddess Tethys. Their number was many. Hesiod mentions 41 names, and Apollodorus adds Amphitrite, as follows :

Acasta,	Crisia,	Melobosis,	Prynno,
Admete,	Dione,	Menestho,	Rhodia,
Amphitrite,	Doris,	Metis,	Styx,
Amphiro,	Electra,	Ocyroe,	Telestho,
Asia,	Eudora,	Pasithoe,	Thoe,
Callirhoe,	Europa,	Petrea,	Tycho,
Galnxaure,	Eurynome,	Perseis,	Urania,
Calypso,	Hippo,	Pitho,	Xanthe,
Cerceis,	Ianira,	Plexaure,	Zeuxo.
Clymene,	Ianthe,	Pluto,	
Clythia,	Idya,	Polydora,	

Homer seems to mention in his *Hymn to Ceres* (404-420) 9 not included in this list :

Chrysis,	Leucippe,	Phæno,
Galaxyre,	Melite,	Pluto,
Iacche,	Rhæa,	Rhodope,

THE NEREIDES. (Vol. IX, p. 39.) These nymphs of the sea were daughters of Nereus and Dorus, said to be 50 in number. Their names are singularly formed, and 33 are mentioned by Homer (*Iliad* XVIII, 47-65). Hesiod is said to give their names as follows :

Actæa,	Eudora,	Ianassa,	Pronoe,
Agavè,	Eulimene,	Laomedia,	Proto,
Amphitrite,	Eunice,	Liagora,	Protomelia,
Autonoe,	Eupompe,	Lysianassa,	Psamathe,
Cymatolege,	Evagora,	Melita,	Pasthea,
Cymo,	Evarne,	Menippe,	Sao,
Cymodice,	Galatea,	Nemertes,	Spio,
Cymothoe,	Galena,	Nesæa,	Thalia,
Dynamene,	Glaucanome,	Neso,	Themisto,
Doris,	Glauce,	Panope,	Thetis,
Doto,	Erato,	Pherusa,	Thoe.
Eione,	Halimede,	Polynome,	
Eucrate,	Hyppothoe,	Pontoporia,	

Homer mentions 15 whose names are not in the list as given above from Lempriere's "Classical Dictionary," from Hesiod :

Amathea,	Calliarassa,	Halia,	Mæra,
Amphinome,	Callianira,	Iæra,	Nassa,
Amphithoe,	Clymene,	Ianira,	Orithya.
Apseudes,	Dexamene,	Limnorea,	

Apollodorus mentions 16 whose names are not in the lists above :

Calypso,	Polynoe,	Glocothoe,	Neomeris,
Cejanira,	Dero,	Isea,	Pione,
Ceto,	Dione,	Ione,	Plesaura,
Cranto,	Eumolpe,	Melia,	Protmedusa.

Hyginus mention 16 whose names are not in the lists above :

Arethusa,	Crenis,	Ephira,	Lycorias,
Asia,	Cydippe,	Eurydice,	Opis,
Beroe,	Deopea,	Leucothoe,	Phillodoce,
Cleio,	Drymo,	Ligea,	Xantho.

THE ATLANTIDES. (Vol. VIII, 268.) These were the twelve daughters of Atlas, seven (the Pleiades) by a wife Pleione, and five (the Hyades) by a wife Æthra.

The seven were fabled to have been changed into the seven stars in Taurus. Their names were :

Alcyone, Celæno, Electra, Maia, Merope, Sterope, Taygeta.

The five became the group of stars in the face of Taurus. Their names were :

Ambrosia, Coronis, Eudora, Phaola, Polyxo.

SOCRATIC ELENCHUS AND SORITIES. (Vol. VIII, p. 322.) The *elenchus* was a mode of argument by scrutiny and questioning. The *sorities* was argument by a series of syllogisms in which the conclusions of one formed the premise of the next.

A. WILDER.

THE PASSIONS. (Vol. VIII, 24.) The word *passion*, suffering* what is received or undergone. Though often associated with pain, it does not have that meaning necessarily, or at all times. That which is experienced, acquiesced in, or coöperated with, is suffering. There was a passion of Adonis and other hero-divinities.

A. WILDER.

Live, vile, and evil have the self-same letters,
He *lives* but *vile* who *evil* holds in fetters.—*Levi Veil*.

SHILOH. Several have propounded the question as to who or what is *Shiloh* in Genesis XLIX, 10. In answer we reply there is a great diversity of opinions among biblical scholars. We will give the several versions, and the conclusions will have to be left with each questioner. Commentators are divided as to whom or what to apply the word *Shiloh*.

Authorized version. "The sceptre shall not depart from Judah, nor a lawgiver from between his feet, until *Shiloh* come."

Revised version. "The sceptre shall not depart from Judah, nor the ruler's staff from between his feet, until *Shiloh* come."

Julia E. Smith's version. "The rod shall not depart from Judah, and a leader from between his feet, till that *Shiloh* shall come."

Septuagint. "A prince shall not fail from Judah, nor a captain out of his loins, until the things come that are laid up for him."

Syriac. "The sceptre shall not fail from Judah, nor an expounder from between his feet, till he come whose it is."

Arabic. "The sceptre shall not be taken away from Judah, nor a lawgiver from under his rule, until he shall come whose it is."

Samaritan. "The sceptre shall not be taken away from Judah, nor a leader from his banners, until the *Pacific* shall come."

Latin Vulgate. "The sceptre shall not be taken away from Judah, nor a leader from his thigh, until he shall come who is to be sent."

Targum, Onkelos. "One having the principality shall not be taken from the house of Judah, nor a scribe from his children's children, until the Messiah come, whose the kingdom is."

Targum, Jerusalem. "Kings shall not fail from the house of Judah nor skilful doctors of the law from their children's children, till the time when the king's Messiah shall come."

Targum, Jonathan. "Kings shall not from the house of Judah, nor skilful doctors of the law, until the time when the king's Messiah shall come, the little one of his sons."

Rabbinic Commentary. "The kingdom of the tribe of Judah shall not depart, nor the princes in the land of Israel which are of the tribe of Judah, until *Shiloh* come."

The B'chai writes: "Until *Shiloh* come" means that the kingdom of Judah shall last till Moses comes to be king, as it is written in the text, "And he shall reign in *Jeshurun*," i. e., And Moses will be king over Israel; *Shiloh* having the same numerical value as *Moses*, it refers to *Moses*.

EVERY WATCH IS A COMPASS. A few days ago I was standing by an American gentleman, when I expressed a wish to know which point was the north. He at once pulled out his watch, looked at it, and pointed to the north. I asked him whether he had a compass attached to his watch. "All watches," he replied, "are compasses." Then he explained to me how this was. Point the hour hand to the sun and the south is exactly half-way between the hour and the figure XII on the watch. For instance, suppose that it is four o'clock. Point the hand indicating four to the sun and II on the watch is exactly south. Suppose that it is eight o'clock, point the hand indicating eight to the sun, and the figure X on the watch is due south. My American friend was quite surprised that I did not know this. Thinking that possibly I was ignorant of a thing that every one else knew, and happening to meet Mr. Stanley, I asked that eminent traveler if he was aware of this simple mode of discovering the points of the compass. He said that he had never heard of it. I presume, therefore, that the world is in the same state of ignorance. Amalfi is proud of having been the home of the inventor of the compass. I do not know what town boasts of my American friend as a citizen.—*London Truth*.

PECULIAR WORDS. A correspondent asks for the derivation and meaning of the word "xinky." We cannot give it, yet we have met the word in Richard Carlile's works, and others'. Who can explain it?

These rare words remind us of George W. Thompson's formula :

The Norm + the Germ $\times$ the Conditions = the Fruit.

Serieses. This plural form of *series* is used by James Lockhart in a tract on "Cubic Equations belonging to the Irreducible Case" (p. 34), London, 1813.

Quotity. This word was made by Isaac Barrow, says Stewart, and was used in his "Lectures" in place of *quantity* when applied to number. Barrow observes :

"The *general object* of the mathematics has no proper name, either in Greek or Latin. It is plain that mathematics is conversant about two things especially; quantity strictly taken, and quotity; or, magnitude and multitude."

Quiddity. This word, Dr. William Whewell says, the Latin Aristotelians used. In the same way we talk of the *quantity* and *quality* of a thing, they spoke of its *quiddity*.

Hæcicity. This word means *thinness*, "a certain determining positive entity." The word was used by the school of Duns Scotus, who was the adversary of Thomas Aquinas in theology. "Thus an individual man is Peter, because his *humanity* is combined with *Petreity*."

The Wisdom - Religion.

BY H. T. EDGE, LONDON.

In this age of multitudinous beliefs—religious, philosophic, scientific, and mystical—broad-minded people, free from prejudice in favor of any particular belief, are at a loss which to accept; and not being able to accept all, generally end in accepting none, that is, in becoming agnostics. But the agnostic position, however free from shackles, is after all one of debasement; to confess one's self ignorant does not raise one's self-respect. Neither is the sentiment of veneration, and others akin thereto, satisfied. Hence, an agnostic, unless he be devoid of such sentiments, *i. e.*, a moral deformity, must ever be conscious of an aching void.

Is there, then, no alternative between being an agnostic and accepting one of the exclusive forms of belief and worship called religions? Must an earnest and broad-minded enquirer either confine his soaring spirit within the narrow and constricted limits of a church, or else confess himself an atheist? Ask Mrs. Annie Besant and many others who have had this perplexing question solved for them, and they will tell you there is a system called 'Theosophy, which will enable a man to preserve his breadth of mind without compelling him to sacrifice his aspirations and veneration for the supreme.

What, then, is this Theosophy? Theosophy is a system designed to reconcile all

RELIGIONS, PHILOSOPHIES, AND SCIENCES

under one common system of ethics based on eternal verities. This is a stock definition; and to those who are accustomed to hear big words used to express small ideas or to define empty dogmas, they may seem pretentious; but a little explanation will remove such objections. People may say, "How can all religions be reconciled under one system, when they are so opposed to one another in their doctrines?" The answer is that Theosophy does not try to reconcile *doctrines*, since these are merely the external forms of religions, due to cumulative effect of differences in the climatic, racial, and intellectual characteristics of the various people who profess them.

In days long gone by, before that event took place which is described in the Bible as the "Fall of Man," and is known by Theosophists as the fall of Spirit into matter, the human race was more spiritual and god-like than at present, and the confusion of races, nations and creeds did not exist, for the curse of separateness and selfishness

had not yet descended, and man was a harmonious brotherhood. The

KNOWLEDGE OF GOD, OF THE UNIVERSE, OF LIFE,

had not become degraded to a mere speculation as it is at present, when every one is at liberty to build up a religion or philosophy of his own. Neither were the aspirations of the heart severed from those of the intellect, and the science of life divided into halves—Religion and Science—as at the present day. There was one single system of knowledge, embracing all departments of enquiry, whether ethical, social, scientific, or what not, and it has been called the Wisdom-Religion, or

THE SECRET DOCTRINE, OR THE DIVINE GNOSIS.

As man became more material, selfish, and evil, it became necessary to keep this divine knowledge more or less secret, because it was dangerous to entrust it to people who might use it for their own private advantage, instead of for the general welfare. Hence, if we examine the pages of history we find it was taught from time to time, under names similar to the above by persons calling themselves "Hierophants," or "Initiates," to small select bodies or schools by means of ceremonies known as "Mysteries." To mention a few instances, there were the mysteries of Egypt, of Samothrace, of Pythagoras and his school, of Plato, of the Alexandrian philosophers, and of the Neo-Platonists, also the Mysteries known as the Eleusinia in Greece, and the Yogis and Adepts of modern India, with their religious-philosophical systems, esoteric and exoteric. The Wisdom-Religion is taught at the present day under the name of Theosophy.

THE CHIEF TEACHINGS OF THEOSOPHY.

1. The universe is not an aggregation of separate parts, but is one whole, and this whole or sum-total of all that exists is Deity. Thus our God is not a personality; it is the sum-total of all states of consciousness and all forms of manifestation, or, in other words, the ultimate spiritual basis of the universe. This Deity (*Para-Brahm*) exists alternately in a state of rest and a state of activity. In the former state the whole universe is unmanifested and, so to say, asleep; in the latter state the Deity assumes a creative power and the universe is evolved according to philosophical principles too abstruse to enter into here. Both these last billions of years, and the latter one prevails of course now.

2. Man consists mainly of two parts, a spiritual part, which is a spark from Deity and is "made in the image of God", and a lower

part, which is animal and of the world. The divine part, or Higher Ego, is in its original state good from want of power to commit evil; it is part of the divine scheme of evolution that it should acquire experience, or the knowledge of good and evil, so as to perfect its nature; therefore it has to pass through a long series of incarnations on earth, during which at first it inevitably goes astray, but ultimately conquers sin, and matter reassumes its divine state of purity.

3. Our present earth-life is only one of a long series of similar ones undergone by our Higher Ego in accordance with the above law. The conditions of wealth, station, and happiness in which we are born in any given life or incarnation are regulated by a law known as the

LAW OF KARMA, OR MERIT.

This may be described as the law of cause and effect in the moral world, and provides that sins bring their own punishment and virtues their own reward, not according to the decision of a personal God, but as a matter of necessity and inevitableness, so that a man who breaks Nature's laws in one life incurs the penalty either in that same life or a subsequent one, just as a drunkard gets a headache next morning. It will be seen that this law accounts for the differences in worldly condition which must otherwise be put down to the caprice of a personal Deity, teaches us self-reliance, and does away with the doctrine of eternal punishment.

4. The present stage of human development is a comparatively low one, and is destined to evolve higher and higher till he reaches that state of divine Manhood which is his ultimate goal and which we see exemplified in Jesus. We have achieved wonderful power over the material world, but there are higher worlds than this. The body functions on the physical plane, the soul on the psychic plane, and the spiritual on the spiritual plane. Life on this plane is much fuller and involves the possession of far higher powers and faculties than we at present possess.

PRACTICAL THEOSOPHY

teaches how to cultivate our higher nature, and transfer our consciousness and power of action to the corresponding planes. But the road to power lies only through renunciation of self and worldly attractions, and is usually the work of several incarnations. Some great souls have outstripped the run of humanity and risen to these heights of development; they have formed the Initiates, Adepts, and true Magi of all ages, and they preserve the knowledge of the Secret Doctrine on earth.

"OUR INHERITANCE IN THE GREAT PYRAMID." Charles Piazzi Smyth, Astronomer Royal of Scotland, author of the book on the Great Pyramid, quoted above, in the fifth edition, chapter II, part 1st, page 11, refers to the bibliography of cyclometry, quadrature, and rectification, published in June and July N. AND Q., 1888, as follows :

"Thus, in Nos. 6 and 7, Vol. V, of 'The Bizarre, Notes and Queries,' for June and July, 1888, published at Manchester, N. H., United States of America, a publication of small size, but considerable weight, because of eminent seriousness and ability, working too, under the double motto : 1st, from Plato, 'God perpetually geometrizes' ; 2d, from Confucius, 'He who offends against Heaven has none to whom he can pray,'—in the above numbers of the above-named serial, let me repeat, will be found an admirably condensed article on 'Cyclometry, Quadrature, Rectification,' consisting of thirty-three pages of short, pithy notes on chiefly very modern works published both in London and America, bringing out by their own supposed absolute mathematics various impossible values for π , stretching anywhere on either side of the correct 3.14159, etc.,—given to 707 decimal places, not one of which can be altered with impunity,—up to so large a variance on one side as to 3.23, and on the other side as 3.125. Nearly one hundred such authors are alluded to ; vigorously, so self-sacrificingly have some of them preached their misleading lights that of one it is reported that his publications, amounting to fourteen, and totalizing 1988 pages, are profusely illustrated with plates, diagrams, extracts, and examples. And as I once had a chance opportunity of hearing him speak at a public meeting in Liverpool, he was a man of power on the platform above the the average of men, on all subjects but that one, on which he was most anxious to lead them, viz., his own value of π ."

WHY SIXTY SECONDS MAKE A MINUTE. Why is our hour divided into sixty seconds, etc.? Simply and solely, replies Max Muller, in *Fortnightly Review*, because in Babylon there existed by the side of the decimal system of notation another system, the sexagesimal, which was counted by sixties. Why that number should have been chosen is clear enough, and it speaks well for the practical sense of those ancient Babylonian merchants. There is no number which has so many divisors as 60 ; it being divided without a remainder by 2, 3, 4, 5, 6, 10, 12, 15, 20 and 30. The Babylonians divided the sun's daily journey into 24 parasangs, or 720 stadia. Each parasang or hour was subdivided into 60 minutes. A parasang is about a German mile, or a little more than four and a half English miles ; and Babylonian astronomers compared the progress made by the sun during one hour at the time of the equinox to the progress made by a good walker during the

same time, both accomplishing one parasang. The whole course of the sun during the 24 equinoctial hours was fixed at 24 parasangs, or 720 standia, or 360 degrees. The system was handed on to the Greeks, and Hipparchus, the Greek philosopher, who lived 150 B. C., introduced the Babylonian hour into Europe. Ptolemy, who wrote 140 A. D., and whose name still lives in that of the Ptolemaic system of astronomy, gave still wider currency to the Babylonian way of reckoning time. It was carried along on the quiet strain of traditional knowledge through the Middle Ages, and, strange to say, it sailed down safely over the Niagara of the French revolution. For the French, when revolutionizing weights, measures, coins, and dates, and subjecting all to the decimal system of reckoning, were induced by some unexplained motive to respect our clocks and watches, and allowed our bials to remain sexagesimal—that is, Babylonian—each hour consisting of sixty minutes.

NAMES OF NOAH'S AND HIS SONS' WIVES. (Vol. VIII, p. 37.) We find an extract preserved from Berosus, the Chaldean historian, which gives the names of these ante- and post-diluvian wives slightly different from those given in the "Book of Jasher." Berosus wrote :

" But there was one among the giants that revered the gods, and was more wise and prudent than all the rest. His name was Noa. He dwelt in Syria with his three sons, Sem, Japet, Chem, and their wives, the great Tidea, Pandora, Noela, and Noegla. This man fearing the destruction which he foresaw from the stars would come to pass, began in the seventy-eight year before the inundation to build a ship covered like an ark. Seventy-eight years from the time he began to build the ship the ocean of a sudden broke out, and all the inland seas and the rivers and fountains bursting from beneath, attended by the most violent rains from heaven for many days—overflowed all the mountains, so that the whole human race was buried in the waters, except Noa, and his family, who were saved by means of the ship, which, being lifted up by the waters, rested at last on the top of the Gendyæ, or mountain, on which it is reported there now remaineth some part, and that men take away the bitumen and make use of it by charm, or expiation, to avoid evil."

WARREN ADMANT.

" THE DESIRE OF ALL NATIONS SHALL COME." This is quoted from the Prophecy of Aggeus (Haggai) II, 8 Douay version. The Revised version reads : "the desirable things of all nations shall come." What is the import of the passage ? If it is prophecy, is its fulfillment in the past, or in the future ?

GEO. K. RACE.

PENTALITHISMUS AND PENELOPE. (Vol. VIII, p. 22[2].) Thomas Browne, in his "Garden of Cyrus," (Simon Wilkin's edition), London, 1852, p. 509, says of these games :

"Somewhat after this manner they ordered the little stones in the old game of *Penthelithismus*, or casting up five stones to catch them on the back of their hand. And with some resemblance hereof, the *proci*, or prodagal paramous, disposed their men, when they played at *Penelope*. For being themselves 108, they set 54 stones on either side, and one in the middle, which they called Penelope, which he that hit was master of the game."

Theodore A. Buckley, in his translation of Homer's *Odyssey* Bk. I, p. 4, (Bohn's Classical Library), note, referring to Liddell's Lexicon, about the game of drafts, says :

"It appears from Athenæus that the chief fun of the game consisted in driving one piece, called Penelope, which was placed between the two halves of something like a modern backgammon board, twice out of its place, by means of another. The winner was supposed to have some chance in gaining Penelope."

PATROCLUS'S GAME OF DICE. (Vol. VIII, p. 22, [10].) Patroclus, the bosom friend of Achilles, confessed that he killed Clysonymus, son of Amphidamas, having become enraged over a game of dice (*astráglos*, *Iliad* xxiii, 87). Astragalomancy is defined by Webster: "Divination by means of small bones or dice marked with letters." It is from *astrágalos*, ankle-bone, and *mantéia*, divination.

Jeremy Taylor, in his "Holy Living and Dying," p. 224 (Bohn's Standard Library), says :

"Remove from thyself all provocations and incentives to anger, especially games of chance and great wager. Patroclus killed his friend, the son of Amphidamas, in his rage and fury, rising from a cross game at tables."

"THE HUNTSMEN ARE UP IN AMERICA." "Though Somus (*Iliad* i, 6) be sent to rouse up Agamemnon, I find no such effect in these drowsy approaches of sleep. To keep our eyes open longer, were but to act our Antipodes. The huntsmen are up in America, and they are already past their first sleep in Persia. But who can be drowsy at that hour which freed us from everlasting sleep? or have slumbering thoughts at that time, when sleep itself must end, and as some conjecture all shall awake again." — *Garden of Cyrus*, by Thomas Bowne, p. 563.

What time of night was it with the author? If it was midnight with him in London, what time did the huntsmen rise in New England on March 21?

ANGLO.

third of the angle to be trisected. Therefore, if the construction is correct, because $\frac{1}{3}(\pi - x)$ is one-third of the angle to be trisected, we must have $\frac{1}{3}(\pi - x) = \frac{1}{2} \sin^{-1} \left(\frac{a}{\sqrt{1 + a \tan x + a^2 \tan^2 x}} \right)$.

As this is a transcendental equation, it cannot be solved directly, but from a few trials we find that (†) will be satisfied by assuming $x = 19^\circ$, and that for all values of x less than 19° we have,

$$\frac{1}{3}(\pi - x) > \frac{1}{2} \sin^{-1} \left(\frac{a}{\sqrt{1 + a \tan x + a^2 \tan^2 x}} \right),$$

and for all values greater than 19° we have,

$$\frac{1}{3}(\pi - x) < \frac{1}{2} \sin^{-1} \left(\frac{a}{\sqrt{1 + a \tan x + a^2 \tan^2 x}} \right).$$

For $x = 30^\circ$, $\frac{1}{2} \sin^{-1} \left(\frac{a}{\sqrt{1 + a \tan x + a^2 \tan^2 x}} \right) = 20^\circ 26\frac{1}{2}'$, which is $26\frac{1}{2}'$ too great.

For $x = 15^\circ$, $\frac{1}{2} \sin^{-1} \left(\frac{a}{\sqrt{1 + a \tan x + a^2 \tan^2 x}} \right) = 24^\circ 54'$, which is $6'$ too small.

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The Veil of Isis.

BY WM. EMMETTE COLEMAN, SAN FRANCISCO, CAL.

In continuation of the remarks, in NOTES AND QUERIES, November, 1891, on the inscription at Sais, on the so-called temple of Isis, the following facts are submitted :

Sais, in Lower Egypt, was the principal seat of the worship of the goddess Neith, and in the great temple thereat dedicated to her, occurred the famous inscription so often misquoted and misapplied. Neith and Isis were two distinct divinities, and their supposed identification is due to an error of Plutarch, which error has been reproduced to the present time. Neith was one of the first order of deities in Egypt, while Isis and the entire circle of Osirian deities were of the third order,—that is, according to Herodotus, Wilkinson, and Bunsen (Rawlinson's "Herodotus," N. Y., 1859, II, pp. 241-242, 246; Bunsen's "Egypt," I, p. 378, *et seq.*). Neith was preëminently a virgin

goddess,—the virgin mother of Ra the sun-god,—that is, of Ra in his highest form, that of the Creator. (See Tiele's "Egyptian Religion," Boston, 1882, pp. 204-205.) Neith combined within herself virginity and maternity. "She is the eternal deepest ground of all things symbolized, as divine mother-maid." "There is no one of the Egyptian gods as quite like her. Her attributes are transferred to other goddesses, but they all reproduce only one side of the double being that we find in Neith. (Tiele, "Egypt. Relig.," pp. 204-205).

On the other hand, Isis was one of a circle of Osirian deities,—always the wife, but sometimes the mother, sister, or daughter of Osiris. The idea of virginity, the distinguishing characteristic of Neith, was foreign to Isis. She always figures as the wife of Osiris, while Neith, being a perpetual virgin, has no husband assigned to her in the Egyptian pantheon. Neith is forever free from all masculine contact, as the correct rendering of the Saitic inscription inform us. It is her virginity, not her inscrutability, which is emphasized in the inscription. Certain writers have claimed Isis a virgin-mother, but such was certainly not the Egyptian conception. She is said to have been married to Osiris, her brother, while they were in their mother's womb; the result of this antenatal union was Horus, the young sun-god. After the death of Osiris, he (Osiris) "became lord of the world of the dead, and Isis, who has continued to have intercourse with him there, brings forth Harpocrates (Tiele, "Egypt. Relig.," p. 40). It is absurd to call Isis a virgin-mother. Horus is universally recognized in Egyptian mythology as the son of Osiris by his wife Isis. How could she be a virgin? It is probable that representations of Isis and the infant Horus gave rise to similar representations of Mary and the infant Jesus; but it is incorrect to state, as various authors have, that the Egyptian delineations were intended to depict the infant Horus and his *virgin* mother. In the temple of Neith at Saïs, homage was rendered to Isis as a deity distinct from Neith. "There, in addition to the worship of Neith in her two forms, corresponding to her double nature, homage was paid to Selk, the scorpion goddess, Ma, the goddess of truth, Isis, Seti, Nephthys," etc., (Tiele, *l. c.*, p. 208).

This shows the worship of Isis distinct from that paid to the two forms of Neith.

At an early period the Greeks seemed to have identified Neith with

their own goddess Athene, — corresponding to the Roman Minerva. Herodotus (II, 59, 62) and Plato (Timæus, 22, A; Jowett's translation, Oxford, 1871, II, 518; Davis's translation, Bohn, II, 325) identify the Saitic Neith with Athene-Minerva. The earliest mention of the far-famed inscription in the temple at Sais is by Plutarch in his *Peri Isidos kai Osiridos* (*De Iside et Osiride*), — "Or Isis and Osiris" section 9. In the original Greek the passage reads thus:

"*To d' en Sai tes Athenas, hen kai Isin nomizousin, hedos epigraphen eiche toianten, Ego cimi pan to gegonos, kai on, kai esomenon, kai ton emon pepilon oudeis po thnetos apekalupsen.*"

The Latin version is as follows:

"*Quod Sai est Minervæ quam eamden atque Isidem arbitrantur, fanem hanc habebat inscriptionem; Ego sum omne quod exstiterit, est, et erit; meumque pepilum nemo adhuc mortalium detexit.*" (*Plutarchos Suggamaton Tomos Tritos* [*Plutarchi Scripti Moralia*], Duclner emend., Paris, Didot, 1856, tom. I, p. 433).

The English translation of this in Goodwin's edition of Plutarch's "Morals," Boston, 1870, IV, p. 72, reads thus:

"Moreover, the temple of Minerva which is at Sais (whom they look upon as the same with Isis) had upon it this inscription: I am whatever was, or is, or will be, and my veil no mortal ever took up."

The latter clause Kenrick translates more correctly, "No one has ever uncovered my skirts" ("Ancient Egypt," N. Y., 1852, I, p. 327).

This clause was expressive of the perpetual virginity of Neith, her most marked characteristic. Plutarch misconstrued it as signifying the inscrutability of the nature of the goddess and of the principle symbolized by her; and this misconstruction still largely exists in the public mind,—the phrase "The Veil of Isis" being constantly used as significant of Nature's most deeply-hidden *arcana*. "Plutarch seems to have mistaken the meaning of the words," says Kenrick, "referring to the mysterious nature of the goddess, instead of her virginity." ("Ancient Egypt," I, p. 327). "Plutarch is wrong," says Wilkinson, "in considering the 'still unveiled or unmarried goddess the same as Isis, and in saying that the latter [Isis] was called by the Egyptians 'Athena,' signifying 'I proceeded from myself'" (Rawlinson's "Herodotus," II, p. 91).

The word *pephlon* (*peplos*) used by Plutarch is improperly transla-

ted "veil." *Peplos* was a large full robe worn by women, and specially a robe worn by goddesses. The Latin *peplum* (*peplus*) generally signified a robe of state, or a robe worn by the gods. The *peplus* or *peplos* of Athene-Minerva was specially famous. Plato (*Euthryphron*, 6 C, Jowett's "Plato," I, p. 305) and Plautus (Prolog. Mercator, ver. 67,—Riley's "Plautus," Bohn, II, 137; and Fragments from Servius's Commentary on the *Æneid*, I, 480,—Riley's "Plautus," II, 528) refer to the splendidly embroidered *peplos*, or *peplus* of Minerva (Athene) carried like the sails of a galley in procession at the *Panathenæa*, or great festival of Athene-Minerva. Plutarch having used the word *peplos* in speaking of Athene-Minerva, he surely could have no reference to a veil.

Proclus, on his *Timæum*, lib. I, p. 30, has given us a seemingly more complete and accurate rendering of the Saitic inscription. His original Greek is this :

"*Ta onta, kai ta esomena, kai ta gegonata ego eimi. Ton emon chitona oudeis apekalupsen kon ego karpon etehon, helios egeneto.*"

The following English version is in Thomas Taylor's translation of "Proclus on Timæus of Plato," London, 1820, I, 82; but the Egyptians relate, that on the adytum of the goddess there was this inscription :

"I am the things that are, that will be, and that have been. No one has ever laid open the garment by which I am concealed. The fruit which I brought forth was the sun."

The last clause is omitted entirely in Plutarch. Proclus, instead of *peplon*, uses the word *chitona* in naming the covering of the goddess, *Chiton* cannot well be translated veil, as it always denotes a garment, robe, tunic, or something analogous.

In view of these facts, we perceive the inapplicability of the phrase "The Veil of Isis," as applied to the impenetrable mysteries of Nature; for there never was a "Saitic Isis"; no "veil" ever covered Isis, or the goddess with whom she was incorrectly depicted (Neith); and the supposed "veil" never symbolized the inscrutableness of Nature *arcana*,—the never-lifted garment or robe of Neith being a symbol of the perpetual virginity of the great Mother-Goddess

Resolution of Algebraical Equations by Substitution.

By B. F. Burleson, Oneida Castle, N. Y.

[THIRD PAPER.]

When two quadratic equations are symmetrical with respect to the two unknown quantities: that is, when they are similarly involved; it is often of advantage in their resolution, it is well known, to substitute a single unknown quantity for their sum and product respectively. Our text-books on algebra, however, do not extend this principle of substitution for the purpose of resolution beyond equations containing two unknown quantities. Our purpose is to show, that the method when extended, is equally as well adapted to the resolution of such equations containing three or more unknown quantities as it is in those containing two. The method in the extended principle is to substitute a single unknown quantity for the sum of the unknown quantities in the equations, for the sum of their products taken two and two, three and three, etc., respectively, ending with a single unknown expression for their product taken all together. Then we next proceed to form derived equations by adding the given equations, by adding their products taken two and two, three and three, etc., ending with their products taken all together. In these derived equations, after appropriately grouping the terms, we replace them by our substituted equivalents, thus forming as many equations as we have unknown quantities with different unknown symbols. We then proceed by the usual methods of elimination to find the values of these symbols in known terms. Finally by a well known principle of algebra in forming equations from their roots, we can with the determined values found for these symbols construct an equation, of a degree denoted by their number, the roots of which will be interchangeably the values of the unknown quantities sought to be determined. We have heretofore illustrated this process in NOTES AND QUERIES by many examples in our published article entitled "Simultaneous Equations" (Vol. V, pp. 17, 70). In many cases, however, it will be necessary to find only one or two of the values of our substituted symbols, which by substituting in the given equations transformed to contain them, will readily allow us to find the values of the unknown quantities by quadratics, or a simpler process.

We will give an example and its solution which will more fully explain the process than language can describe it.

$$\text{Given } \begin{cases} xyz(x+y+z)=a=24 & \cdot & \cdot & (1) \\ xyz(x-y+z)=b=72 & \cdot & \cdot & (2) \\ xyz(-x+y+z)=c=120 & \cdot & \cdot & (3) \end{cases} \text{ to find the values of } x, y, \text{ and } z.$$

SOLUTION.

Put $x+y+z=s$, $xy+xz+yz=m$, and $xyz=n$; also, for convenience, put $a+b+c=d=216$, $ab+ac+bc=g=13248$, and $abc=p=207360$.

$$\text{By } (1)+(2)+(3)=[\text{by involving terms and factoring}]=ns=d \quad (4)$$

$$\text{Similarly } (1)\times(2)+(1)\times(3)+(2)\times(3)=4mn^2-n^2s^2=g \quad (5)$$

$$\text{And } (1)\times(2)\times(3)=4smn^3-n^3s^3-8n^4=p \quad (6)$$

$$\text{By } (5)\times ns-(6), 8n^4=ns g-p=dg-p, \therefore n=\frac{1}{2}\sqrt[4]{2(dg-p)} \quad (7)$$

Now the given equations are equivalent to

$$ns-2nz=a \quad (8)$$

$$ns-2ny=b \quad (9)$$

$$ns-2nx=c \quad (10)$$

Substituting in (8), (9), and (10), the value of ns as given in (4), and the value of n as found in (7), and resolving severally as simple equations, we find that

$$z=\frac{d-a}{\sqrt[4]{2(dg-p)}}=\frac{b+c}{\sqrt[4]{2(a+b+c)(ab+ac+bc)-2abc}}=4.$$

$$y=\frac{d-b}{\sqrt[4]{2(dg-p)}}=\frac{a+c}{\sqrt[4]{2(a+b+c)(ab+ac+bc)-2abc}}=3$$

$$x=\frac{d-c}{\sqrt[4]{2(dg-p)}}=\frac{a+b}{\sqrt[4]{2(a+b+c)(ab+ac+bc)-2abc}}=2$$

We could give numerous examples like the foregoing in which the values of the unknown quantities can be determined by quadratics by the same method, which it would be difficult, if not impossible, to resolve otherwise.

For instance, the value of x, y , and z may be determined by quadratics in a similar manner in the two following :

$$\begin{cases} x(y+z-x)=a \\ y(x+z-y)=b \\ z(x+y-z)=c \end{cases}, \text{ and } \begin{cases} x(z+y)(x+y+z)=a \\ y(x+z)(x+y+z)=b \\ z(x+y)(x+y+z)=c \end{cases}.$$

We will give in conclusion one more interesting example and its solution, as it shows that although our principle of substitution may not be necessary for resolution in some cases, yet may still be profitably employed to find some other simplified and curious results.

$$\left\{ \begin{array}{lcl} x+xy+y=a=149 & . & . & (1.) \\ x+xz+z=b=159 & . & . & (2.) \\ y+yz+z=c=959 & . & . & (3.) \\ x+y+z=s & . & . & (4.) \\ xy+xz+yz=m & . & . & (5.) \\ xyz=n & . & . & (6.) \end{array} \right\};$$

To find x , y , z , s , m , and n in terms of a , b , and c .

SOLUTION.

From (1), $y = \frac{a-x}{x+1}$. From (2), $z = \frac{b-x}{x+1}$. Substituting these values found for y and z in (3), it becomes

$$\frac{a-x}{x+1} + \frac{b-x}{x+1} + \frac{(a-x)(b-x)}{(x+1)^2} = c \quad . \quad . \quad (7)$$

Clearing (7) from fractions, etc., we obtain the quadratics,

$$(c+1)x^2 + 2(c+1)x = ab + a + b - c \quad . \quad . \quad (8)$$

Resolving (8) we find that $x = \sqrt{\left[\frac{ab+a+b+1}{c+1} \right]} - 1 = 4 \quad . \quad (9)$

By induction $y = \sqrt{\left[\frac{ac+a+c+1}{b+1} \right]} - 1 = 29 \quad . \quad . \quad (10)$

And $z = \sqrt{\left[\frac{bc+b+c+1}{a+1} \right]} - 1 = 31 \quad . \quad . \quad (11)$

To find s we might simply add (9), (10), and (11), to find m , add their products taken two and two, to find n , multiply them all together; but in this way we cannot obtain the simplest formulæ for their values, nor establish some fine principles in the theory of numbers which we wish to show. Hence we will proceed by our method of substitution, to find the values of s , m , and n .

Put for convenience, in equations (1), (2), and (3) $a+b+c=d=1267$, $ab+ac+bc=g=319063$, and $abc=p=22719669$.

Then by (1)+(2)+(3), and factoring, we obtain $2s+m=d$ (12)

Similarly, (1)×(2)+(1)×(3)+(2)×(3)= $s^2+sm+sn+m+3n=g$ (13)

And (1)×(2)×(3)= $s(m+n)+(m+n)^2-n=p$ (14)

From (12), $m=d-2s$ (15)

From (13), $m=\frac{g-s^2-sn-3n}{s+1}$ (16)

By equating (15) and (16), we find that $n=\frac{g+s^2+2s-sd-d}{s+3}$ (17)

Substituting the values found for m and n in (14), we obtain after clearing from fractions, etc., the following quadratics :

$$s^2+6s=\frac{3d+4dg+g^2-9p-3g}{1+p+d+g} \quad (18)$$

Resolving (18) we find that

$$s=\frac{2d+g+3}{\sqrt{(1+d+g+p)}}-3=\frac{2(a+b+c)+ab+ac+bc+3}{\sqrt{[1+a+b+c+ab+ac+bc+abc]}}-3=64 \quad (19)$$

Substituting the value found for s in (15) and (17), we readily find that

$$m=d+6-\frac{4d+2g+6}{\sqrt{(1+d+g+p)}}=$$

$$a+b+c+6-\frac{4(a+b+c)+2ab+2ac+2bc+6}{\sqrt{[1+a+b+c+ab+ac+bc+abc]}}=1139 \quad (20)$$

$$\text{Also, } n=\frac{3d+2g+p+4}{\sqrt{(1+d+g+p)}}-d-4=$$

$$\frac{3(a+b+c)+2ab+2ac+2bc+abc+4}{\sqrt{[1+a+b+c+ab+ac+bc+abc]}}-a-b-c-4=3596 \quad (21)$$

We would call attention of the reader to one of the principles in the theory of numbers this solution leads to. It is this :

Any three radical fractions composed of the quantities a, b, c , etc., like those given in equations (9), (10), and (11), and bearing the relation to three other quantities x, y , and z , that they do, may be added by placing the square of the sum of their numerators over the product of their denominators.

MISCELLANEOUS

NOTES AND QUERIES,

WITH ANSWERS.

ICHTHUS.—"This single word contains a host of sacred names."—
—OPTATUS.

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No. 4.

LIBRARY FIRST MENTIONED IN THE BIBLE. (Vol. IX, p. 39.) The word "library" is found in II Maccabees II, 12 :

"The same things also were reported in the writings and commentaries of Neemias ; how he, founding a library, gathered together the acts of the kings, and the prophets, and of David, and the epistles of the kings concerning the holy gifts."

It is said here that Nehemiah made a library. I suppose, however, that the word meant only a collection of books ; in other words, that he first collected the various works into a volume ; that they were burned and dispersed by Antiochos Epiphanes, and again collected by the Asmoneans, with rabbinic additions, making what we call the "Old Testament."

A. WILDER.

The first place mentioned in the Bible where it is quite probable that a collection of books had been gathered into a library, is in Joshua xv, 15.

"And he went up thence to the inhabitants of Debir ; and the name of Debir before was Kirjath-sepher."

The word *Kirjath* is Hebrew for city, and *sepher* is Hebrew for book ; hence, Kirjath-sepher means "book-city." The name *Debir* means word, oracle, or holy place ; *i. e.*, where these books were deposited for safe-keeping. It is thought that a school or seat of learning had been established at this place by the Canaanites, and a repository for records and books.

A Talk About Theosophy.

BY ELLA WHEELER WILCOX.

Theosophy is undoubtedly the religion of the future. Human intellects are growing away from creed-cumbered Christianity as it is taught in most of the churches.

Fifty years ago, only an occasional daring soul was brave enough to question the Trinity, or doubt the efficacy of a vicarious atonement. Today, hundreds of strong, up-reaching minds express their dissatisfaction of such a creed, and demand something more in keeping with the progress of human intelligence. Every thinking mind must realize that the ultimate spiritual development of man can only be retarded by a belief that a death-bed confession of Christ, as the Son of God, can atone for a life of sin and selfishness.

It would be a poor method of making a poor man industrious to tell him that whatever debts he might incur, or whatever extravagances he indulged in, a devoted relative would assume his liabilities. The sooner the young man learns that he must suffer to pay for his excesses, the sooner he will reform his ways.

The Chinese merchant is not allowed to continue business unless every debt he owes is paid at the New Year ; as a consequence the Chinese merchant is the most honorable in the world, and bankruptcy is seldom heard of there. It is exactly the same with spiritual bankruptcy. Fully impress upon the child's mind that he must pay here and hereafter for every selfish and sinful act, and he will attain a higher degree of morality than one who believes that his deeds can be washed away in Christ's blood, or paid for by generous gifts to the church, and that he can by sudden repentance finally be taken among Heaven's honored hosts.

Theosophy teaches the necessity of an unselfish life, in thought as well as deed. It tells us we are responsible for each word, act and thought, and by these words, acts, and thoughts, we are daily building ourselves perishable or permanent mansions. We cannot put bad and poor material into our soul-house today, and tomorrow say, " Lord, I repent," and have the slothful deed remedied. The bad tricks must remain, but they may serve as warnings to us in the future. Theosophy teaches us that we are part of one supreme system, and that we are surrounded by illimitable spaces, filled with god-like forces and powers, who will aid us to any height and attainment, if we put ourselves in harmony with them ; and it teaches us that within ourselves lie unheard-of and superhuman powers that render us god-like in strength if we choose to develop them. It teaches us that selfishness is the root of all evil, and only in subjugation of self can peace be attained.

"Why!" exclaims the Christian, "all this is what Christianity is, at the core!"

Ah, yes, my dear Christian, all religions are the same at the core, for the core is the essence of God's love. But Christianity, like many other religions, has grown away from the core, to a very tough rind of creeds and dogmas.

"Do as you would be done by," is the core of Christianity, as of Theosophy. But I can count upon the fingers of one hand the church members who place this phrase higher than any portion of the catechism or creed of their denomination, and who regard its obedience to be of more import than the strict observance of Sunday, of partaking of Communion, or a belief in the Trinity.

Few of our prominent divines follow the motto to the extent of avoiding narrow prejudices, and belittling quarrels over dogmas and creeds. The recent Church wrangles which disturbed the spiritual nerve-centers of the United States were sufficient to turn devout natures away from modern Christianity, in search of something more elevating and strengthening.

Theosophy has received many converts, owing to the undignified quarrels of Christian clergymen, but alas! Theosophy has other than true followers as well as Christianity, and already its ranks need weeding. Fad-lovers, seekers after the marvellous, restless souls who desire change, and sensational people who desire to astound the world are all crowding into the broad isles of Theosophy.

A research into Theosophy can bring harmful knowledge alone, unless the spirit is developed with the mind, and to crave the highest good, which means the extinction of self for selfish purposes.

The true Theosophist cares little about phenomena, and does not boast of his powers in that direction; his life is open to the most scrutinizing investigation, and his influence is as inspiring and comforting as the sunlight. He is "a spiritual power for good," and delights in giving pleasure and help, and asks no reward save his own consciousness of being an instrument of the powers of good.

It is impossible for the true Theosophist to feel jealousy or envy; he holds himself responsible for every thought, because he knows far better than any other the power of thought. He knows by rigid control of his thoughts and their right direction he can bring himself into harmony with all the forces of the Universe and develop the God within himself.

Christ was a perfect Theosophist, and the miracles he performed were the achievements of his spirit, which was wholly in league with the forces of beauty, light, goodness, and truth.

There is a Christ in each one of us, and the way to the true Christ is through Theosophy.—*The Path*, January, 1892.

DIGITS CONTAINED IN THE ORTHODOX VALUE OF π , AS CALCULATED BY WILLIAM SHANKS. (Vol. II, pp. 631-632; VI, p. 120.) Volume III of Prof. C. Piazza Smyth's "Life and Works at the Great Pyramid," Edinburgh, 1867, contains a postscript on pp. 602-604, entitled, "Memorandum on the Digits in π ." The article gives several tables relating to the frequency of the digits occurring in that famous decimal calculation to the then 608 decimal places. As a recreation I have taken the extended calculation of Mr. Shanks as given in the Proceedings of the Royal Society of London, Vol. XXI, 1873, which he extended to 707 places, and tabulated the digits. This was done in accordance with the hint of Prof. A. DeMorgan in the London *Athenaeum* for October 27, 1866, page 543. DeMorgan says that "one digit is treated with an unfairness that is incredible as an accident, and that number is the mystic number *seven*!" He further observes that there is probably some reason why the digit 7 is thus deprived of its representation in the decimal number. Yet in twice the number of decimal places, 7 might receive a proper representation. Here is a field of speculation in which two branches of inquiries may unite. I will here give my table of 707 decimals :

Digit.	Number.	Multiplied by.		Products.
1	79	1	=	79
2	73	2	=	146
3	74	3	=	222
4	72	4	=	288
5	63	5	=	315
6	68	6	=	408
7	53	7	=	371
8	73	8	=	584
9	79	9	=	711
0	73	0	=	000
Totals,		707		3124

Here it will be seen that 7 does not show an average representation among the digits. Were the decimals extended to 100 places, whether or not the digits would average about 103, if 7 increased to 75?

CARLOS.

A correspondent furnished the following table several months ago.

The digits appear double and treble, in the 707 decimals, as follows :

DOUBLE.		TREBLE.	
Digits.	Times.	Digits.	Times.
11	11	111	1
22	3		
33	8	222	1
44	8		
55	4	555	1
66	9		
77	3	999	1
88	8		
99	4	000	1
00	3		

N. P. D.

A FISH THE SYMBOL OF CHRIST. "ICHTHUS," a fish: This single word contains a host of sacred names."—OPTATUS.

"He is that fish which in baptism descends in answer to prayer into the baptismal font, so that what was before water is now called, from the fish (*a pisce*), *piscina*."—OPTATUS.

"We are little fishes in Christ our great fish. For we are born in water, and can only be saved by continuing therein."—TERTULLIAN.

"This sign will prevent men from forgetting their origin."—CLEMENT.

"That fish which came alive out of the river to Tobias (chapters vi and xi), whose heart consumed by passion, put the demon to flight, was Christ."—AUGUSTINE.

"ICHTHUS is the mystical name of Christ because he descended alive into the depths of this mortal life as into the abyss of waters."—AUGUSTINE.

"The Saviour, the Son of God, is a fish prepared in his passion, by whose interior remedies we are daily enlightened and fed."—PROSPER of Aquitania.

"The fish in whose mouth was the coin paid as the tribute money, was Christ at the cost of whose blood all sinners were redeemed."—JEROME.

Him who is "figuratively called a fish."—ORIGEN.

"Thus this symbol became a sacred *tessera*, embodying with wonderful brevity and distinctness a complete abridgment of the creed—a profession of faith, as it were, both in the two natures and unity of and in the redemptorial office, of the Blessed Lord."—DR. NORTHCOTE.

THEBES; CITIES BY THIS NAME. (Vol. V, p. 148; VII, p. 194; Vol. IX, p. 22.) There were five cities by the name of Thebes, or its variation in orthography. Anthon says Thebæ, or more correctly Thebe. The word is said to mean *secret*, but this is questioned by several etymologists, as well as *Thebe* and *Thibet* being from the same root-word. The Septuagint, in Exodus II, 3, has *thibe* for the word "ark," and ark, in Genesis VI, 14, in the Vulgate, is *arca*; Septuagint, *kibotos*; Hebrew, *tebak*; Josephus' *larnax*, an ark, a chest, a coffer, a secret place.

I. Thebes was a city of Mysia, north of Adramyttium, and also called, for distinction's sake, Hypoplakia, because lying at the foot of Mount Plakia. It was destroyed by Achilles during the Trojan war (*Iliad* I, 565.) Homer called it "Hypoplacian Thebes" (*Iliad* VI, 396).

II. Thebes, one of the most ancient and celebrated of the Grecian cities, capital of Bœotia, near river Ismenus, founded by Cadmus, and first called Cadmia. Nonus affirms that it received the name Thebes from the Egyptian city, so called. The "Seven against Thebes," of this Theban war were Adrastus, king of Argos, Polynices and Tydeus, sons-in-law of the king, and four of the leading Grecian princes, Amphariaus, Capaneus, Hipomedon, and Parthenopæus.

III. Thebes, a city of Thessaly, in Phthiotis, not far from the sea. In a military point of view it was of great importance to the avenues of Magnesia and Thessaly, from its vicinity to Demetrius, Phœæ, and Pharsalus.

IV. Thebes, a celebrated city of Upper Egypt, the capital of Thebais. The name is said to be a corruption of *Tâpé* of the Copic, which, in the Memphitic dialect of that language, is pronounced Theba. Pliny in one place writes the name Thebes in the singular *Thebe* (5. 9). It was called by the Greeks Diospolis, *i. e.*, city of Jupiter, as a translation of *Amunei*, or the abode of Ammon. Another name applied to it was *Hecatompylos*, *i. e.*, "Hundred-gated." Homer says of Thebes, "She pours forth her heroes through a hundred gates" (*Iliad* IX, 381). Thebes sank in importance when Memphis arose.

V. Thebez, Hebrew, *Tebets*; Septuagint, *Thebes*; Vulgate, *Thebes*. A city mentioned in the Bible (Judges IX, 50) Eusebius says it is in the borders of Neapolis, at the thirteenth mile on the road to Scythopolis. The modern village is *Tubas*.

HOMER NOT BLIND. (Vol. IX, p. 22.) Dr. Edward V. Kenealy is considered the best authority that Homer was not blind. In his "Introduction to the Apocalypse," p. 709, he says :

"Different authors have ascribed to Homer different countries, indeed the country of a wise man is in every land ; but he was in fact an Egyptian of the city of *Thebes*, as you may learn from himself ; his supposed father was a priest there, his real one *Hermes*. For the wife of the priest whose real son he was taken to be, while she was celebrating some sacred mysteries slept in the temple. *Hermes* embraced her (Luke 1), and Homer bore to his dying day a mark of his origin. From *Thebes* he wandered into various countries, and particularly into Greece, singing his verses and obtaining the name he bore. He never told his real name, nor his country, nor family ; but those who knew of this mark upon his body took occasion from it to give him the name of Homer (*Omeros—meros*, in Greek signifies a thigh)." *O meros*, the thigh.

ILIAD AND ODYSSEY—WHAT TO READ. (Vol. VI. 332.) We would advise "LEON" to read first a prose translation of these two poems. Theodore A. Buckley's are good standards of prose ; afterwards a blank verse or rhymed translation will be better appreciated. Here are a few works that will greatly enlighten one in the development of these epics :

"Juventus Mundi, the Gods and Men of the Heroic Age," by Wm. Ewart Gladstone. London, 1869. pp. 541.

"Homeric Synchronism ; an Inquiry into the Time and Place of Homer," by Wm. E. Gladstone. New York, 1876. pp. 284.

"Landmarks of Homeric Study, with an essay on the points of contact between the Assyrian Tablets and the Homeric Text" by Wm. E. Gladstone. London, 1890. pp. 160.

"The Problem of the Homeric Poems," by George D. Geddes. London, 1878. pp. 368.

"Myths of the Odyssey in Art and Literature," by J. E. Harrison. London, 1882. pp. 219.

CALYPSO—THE WORD. (Vol. IX, p. 22.) "Does Homer use the word *calypso* in the *Iliad* ?" We answer, "yes, but not as a name." In book III, line 141, it is found, and translated by Buckley, "veiling" ; also in book XXI, line 321, the word is found, and translated by Buckley, "covered."

GRAND MASTERS OF KNIGHTS OF MALTA. Who have been the Grand Masters of the Order of Knights of Malta? NOVICE.

The Order was founded in 1118 by Hugh de Payens, and 22 have served till 1297, when at the death of James de Molay it was merged or became a factor of the Order of the Temple. Grand Masters and dates of elections :

1. Hugh de Payens,	1118	12. Gilbert Horal,	1195
2. Robert of Burgundy,	1136	13. Philip de Plessis,	1201
3. Everard de Barri,	1146	14. William de Chartres,	1217
4. Bernard de Tremellay,	1151	15. Peter de Montaigu,	1218
5. Bertrand de Blanquefort,	1154	16. Hermann de Perigord,	1236
6. Philip of Naplous,	1167	17. William de Sonnac,	1245
7. Odo de St. Amand,	1170	18. Reginald de Vichier,	1252
8. Arnold de Troye,	1180	19. Thomas Berard,	1256
9. Gerard de Ridefort,	1185	20. William de Beaujeu,	1273
10. Brother Walter,	1189	21. Theobald de Gaudini,	1291
11. Robert de Sablé,	1191	22. James de Molay,	1297

CHRISTIANS SECTS. What Christian sects still cling to the name?
ROBERT OF TOWER HILL.

Christian claim to be believers in Christ and his teachings but they assume many sects, denominations, beliefs, and names. The English Scriptures say they first received the name *Christians* at Antioch (Acts II, 26), and the word appears but twice elsewhere (Acts XVI, 28 ; 1 Peter IV, 16). In modern times the sect so called own no name or founder but Jesus the Christ. The following retain the name :

Bible Christians,	Free Catholic Christian Church,
Christian Believers,	Free Christians,
Christian Brethren,	Free Christian Association,
Christian Connexion,	Free Evangelical Christians,
Christian Disciples,	Free Grace Gospel Christians,
Christian Eliasites,	Rational Christians,
Christian Israelites,	Unitarian Christians,
Christian Mission,	United Christian Church,
Christian Teetotallers,	Universal Christians,
Christian Temperance Men,	Christians of Saint John, (?)
Christian Unionists,	Christians of Saint Thomas, (?)

There are still other sects that take name in a modified form, the *Christians*, *Christadelphians*, etc. (See each name in McClintock & Strong's "Cyclopædia," and Smith's "Dictionary of the Bible.")

WHY DECEMBER 25 IS CALLED CHRISTMAS. The following is from Sir Isaac Newton on " The Prophecy of Daniel " :

" The times of the birth and passion of Christ not being material to religion, were little regarded by the Christians of the first age. They who began first to celebrate them placed them *in the cardinal periods of the year* :

1. The Annunciation of the Virgin Mary on the 25th of March, which when Julius Cæsar corrected the calendar was the *vernal equinox*.
2. The Feast of John the Baptist on the 24th of June, which was the *summer solstice*.
3. The feast of St. Michael on September 29, which was the *autumnal equinox*.
4. The birth of Christ on December 25th, which was the *winter solstice* ; with the feasts of St. Stephen (26th), and St. John the Evangelist (27th), as near as they could have them.

And because the solstice removed from December 25th to the 24th, the 23d, the 22d, and so on backwards, some in the following centuries placed the birth of Christ on December 23d, and at length on December 20, and for the same reason they seem to have set the feast of St. Thomas on December 21st, and that of St. Matthew on September 21st. So also at the entrance of the sun into all the signs in the Julian calendar, they placed the days of their saints."

☿ Jan. 25, Conversion of Paul.	♊ July 25, St. James.
♈ Feb. 25, St. Matthias.	♋ Aug. 24, St. Bartholomew.
♉ Mar. 25, The Annunciation.	♌ Sept. 29, St. Michael.
♊ April 25, St. Mark.	♍ Oct. 28, SS. Simon and Jude.
♋ May 26, Corpus Christi.	♎ Nov. 30, St. Andrew.
♌ June 24, St. John Baptist.	♏ Dec. 25, Christmas.

" If there were any other remarkable days in the calendar they placed the saints, as St. Barnabas on June 11, where Ovid seems to place the feast of Vesta and Fortuna, and the goddess Matuta ; and SS. Philip and James on May 1, a day dedicated both to the Bona Dea, or Magna Mater, and to the goddess Flora, and still celebrated with her rites. All which shows these dates were fixed in the first Christians' calendars by mathematicians at pleasure, without any ground in tradition ; and that the Christians took up with what they found in the calendars."

NINE WORTHIES. Hector of Troy ; Alexander the Great of Macedon ; Julius Cæsar, emperor of Rome ; Joshua, leader of the Israelites ; David, king of the Jews ; Judas Maccabæus, Charlemagne ; Arthur, king of the Britons ; and Godfrey, baron of Jerusalem.

NINE WORTHY WOMEN OF THE WORLD. (Vol. IX, p. 40.) These were Minerva, Semiramis, Tomyris Jael, Deborah, Judith, Britomart, Isabella of Aragon, and Johanna of Naples.

Who Minerva was, and what the Biblical women did, is well known. Semiramis was queen of Assyria; Tomyris, queen of Messagetæ vanquished Cyrus; for Britomart, a Welsh princess, (see "Faery Queen"),

"She charmed at once and tamed the heart,
Incomparable Britomart."—*Walter Scott.*

Johanna of Naples married the first of her four husbands, at the age of seven years, and is said to have woven with her own hands a rope of gold thread with which she had him strangled.

Isabella of Aragon after daring to marry for love against the wishes of her royal brother, had a glorious and prosperous career as queen as she subsequently became.

DAVID M. DRURY.

ABBREVIATED NAMES. I am an Odd-Fellow of over twenty-five years' membership in the Order. During this time I have become somewhat familiar with the names of the representative men of the Order. There are two prominent names which I do not remember to have ever seen in full in the printed proceedings, but they always are abbreviated or shortened, and I submit the question for my enlightenment as to the full Christian name. 1. What does *Tal.* stand for in the name of Tal. P. Shaffner? 2. What does *Cl.* stand for in the name of Cl. T. Campbell?

O. F.

1. *Taliaferro* P. Shaffner was a Grand Representative from Kentucky to the Sovereign Grand Body 1877 to 1881. He died December 11, 1881, at Troy, N. Y., at the age of 63 years. A brief obituary notice of him appears in the appendix to the journal of that body for 1881, page II.

2. *Clarence* T. Campbell is the present Deputy Grand Sire. He was Grand Representative from Ontario, Canada, to the Sovereign Grand Body from 1879 to 1890, when he was elected Deputy Grand Sire. We have never seen his full name in print in the Journal of the Sovereign Grand Lodge.

Some other correspondent inquired recently for the late James L. Ridgely's full name. So we answer here that James *Lot* Ridgely was born at Baltimore, Md., January 27, 1807. Died at Baltimore, Md., November 16, 1881. Age 74 years, 9 months, 20 days. Grand Secretary of the Sovereign Grand Body, April 24, 1840, to November 16, 1881—a period of over 41 years.

THE AMERICAN ENSIGN. (Vol. IX, p. 38.) The following in reference to the American flag, will be found in the "World Almanac for 1892," p. 246 :

"The revised statutes of the United States provide that 'On the admission of a new State to the Union one star shall be added to the union of the flag; and such addition shall take effect on the fourth day of July then next succeeding such admission.'

"From the date of the admission of Colorado, in 1876, to that of North Dakota, November 2, 1889, the union of blue field of United States flag bore 38 stars. The admission of North Dakota, South Dakota, Montana, and Washington added four more stars to the field, and the flag flung to the breeze July 4, 1890, contained 42 stars.

"The Idaho admission bill had been signed by President Harrison the day previous, but too late for the addition of the star to the flag.

"Wyoming has since been admitted, and the flag therefore has borne since July 4, 1891, and will till another State is admitted, 44 stars. The Navy Department has arranged the order of the stars on the new field, which is as represented in the accompanying diagram, and the President has approved of the design. There are four rows of seven stars each, and two rows of eight stars each, the latter being the upper and lower rows."



PASCAL'S PROBLEM TO FERMAT.. "A person undertakes to throw a six with a die in eight throws; supposing he has made three throws without success, what portion of the stake should he be allowed to take on condition of giving up his fourth throw?"

Fermat's reasoning is as follows : "The chance of success is $\frac{1}{6}$, so that he should be allowed to take $\frac{1}{6}$ of the stake on condition of giving up his throw. But if we wish to estimate the value of the fourth throw before any throw is made; then the first throw is worth $\frac{1}{6}$ of the stake; the second is worth $\frac{1}{6}$ of what remains, that is $\frac{5}{36}$ of the stake; the third throw is worth $\frac{1}{6}$ of what now remains, that is $\frac{25}{216}$ of that stake; the fourth throw is worth $\frac{1}{6}$ of what now remains, that is $\frac{125}{1296}$ of the stake."

PLANETS, AND SIGNS OF THE ZODIAC, MENTIONED IN THE BIBLE. (Vol. IX, p. 38 and 39.) The word "planets" is found in the Old Testament in II Kings xxiii, 5 : "To the sun, and to the moon, and to the planets, and to all the host of heaven." The marginal reading given to "planets" is "twelve signs, or constellations." The Greek word translated "planets" here is *mazouròth*. In Job xxxviii, 32, is found the word *Mazzaroth* : "Canst thou bring forth Mazzaroth in his season ? or canst thou guide Arcturus with his sons ?" The marginal reading here for Mazzaroth is "the twelve signs." Hence it appears that the word *planets*, which means "wandering stars," is not the proper rendering of the Greek in II Kings. The Greek word *planetes* is found in the New Testament (Jude 13), and is properly translated "wandering stars" in the King James version.

ORIGIN OF PONTIFF. Pontiff, as every one knows, is a synonym for the Pope, or head of the Roman Catholic Church. Pontifex, from which it springs, bore a precisely similar signification, being applied to the high priest of the heathen religion, in the elder days of the city of Rome. What does the reader think the word Pontiff, or Pontifex, signifies, in its plain, true, and original acceptation ? A bridge-maker ! *Pontem facere*, in the Latin, signifies to make a bridge ; and according to the usual custom of compounding words in that language, comes *pontifex*, a bridge-maker, -builder. All trace, however, of this sense of it merged early in that of high-priest, though in what the change had its origin is doubtful. Some etymologists think that the high-priests of Rome had the charge of repairing and maintaining in good order a certain bridge of the city, attached to their office ; while other say that one high religious official built a splendid bridge at his own expense, and had the name of Pontifex perpetuated, in connection with the priestly office, in token of public gratitude.

ASTERISM AND CONSTELLATION. (Vol. IX, p. 38.) Originally, no doubt asterism was used in the sense of constellation as now used ; but asterism is now more particularly applied to smaller clusters of stars, as the Pleiades, the Hyades, the Præsepe (the manger), Cassiopeia's Chair, the three Dippers, the Sickle, Orion's Belt, etc.

"SECOND PSALM." (Vol. IX, p. 39.) The only place in the New Testament where reference is given to the chapter or division is in Acts xiii, 33, where it reads, "written in the second psalm."

QUESTIONS.

"Undoubtedly we have no questions to ask which are unanswerable."—*Ralph Waldo Emerson.*

1. Milton, in *Paradise Lost*, Book v, lines 658-659, says, "Satan, (so call him now, his former name is heard no more in Heaven); he of the first, if not the first archangel." What was Satan's former name in Heaven?

ALEXANDER.

2. Talmudic tradition says Eve was Adam's second wife; that his first wife's name was *Lilith*. Where can such semi-mythic account be found?

ALEXANDER.

3. We are told by Charles Kraitsir, M. D., in his work on the "Significance of the Alphabet," p. 24, that Cicero intimates that his own name is pronounced by the crowing chicken cock. Are we to understand that the name Cicero was in his day pronounced either *Kikero*, or *Sikero*?

ALEXANDER.

4. What is called in weights and measures "the poor man's grain," as a standard?

MARY DIP.

5. A small work on language, by one Simcoe, title forgotten, published in Chicago, about ten years ago, stated that the words, *world*, *whirl*, *whorl*, *whole*, *wheel*, and the like, had one common root origin. Does any reader recall the title of the work, author or publisher?

LOGOS.

6. "From Homer, through Plato, and other sages, come down the memorable lines."—*Melville's* "Philosophy of Logic," p. 21.

"By faithful intercourse and mutual age,
Great deeds are done and grand discoveries made;
The wise new wisdom on the wise bestow,
While the lone thinker's thoughts come slight and slow."

Where in Plato, do we find words of the above paraphrase? X.

7. Who or what were the *autochthones*, and what race descended from them?

AUGUSTINE.

8. Who is the author of the following remarks, frequently quoted: "He is ungrateful who denies that he has received a kindness when he has received it; ungrateful who conceals the fact that he has received it; ungrateful who does not return it; but the most ungrateful of all is he who does not return it."

AUGUSTINE.

9. When were the most remarkable conjunctions of the planets on record, and how many and what planets were in conjunction? H.

10. Who was the discoverer of the Method of Least Squares? H.

Algebraical Substitutes Applied to the Calculus.

By B. F. Burleson, Oneida Castle, N. Y.

[FOURTH PAPER.]

Our method of substitution in the resolution of certain equations, which has already occupied three papers in *NOTES AND QUERIES* (Vol. V, pp. 17-23, 70-72; VIII, p. 69-72), might seem to the casual reader to be exhaustive in the uses to which we have applied it. Let us recapitulate them.

First, to the resolution of certain higher equations that would be impossible to solve by any other process owing to the difficulty of elimination.

Second, its application to geometry, and the aid it affords in resolving certain difficult problems, more especially relating to the triangle.

Third, the aid it renders in obtaining various expressions for the area of a triangle.

Fourth, the easy help it furnishes for solving by quadratics, or a simpler process, certain equations of three or more unknown quantities.

Fifth, the demonstration it supplies of some peculiar properties in the theory of numbers.

It is strange that in the twenty or thirty algebras that I have examined, including the most recent, scarcely a word is said relating to this most useful method of substitution. The only author I can now recall who has mentioned it at all is George R. Perkins in his "*Higher Algebra*," and even he devotes but a very little space to its exemplification. So far then as relates to the full investigation and exhibition of the workings of the principle, we claim to be the first who has attempted it.

As the patient toiler in algebraical formulæ needs every aid that ingenuity can devise to encourage him in unraveling the labyrinthine maze that often confronts him, we hope to see some good Ariadne in the near future not only give, but exemplify the uses of this fine clue in some algebra, noted not less for its perspicuity than for its completeness.

We wish to give in concluding this whole subject one more example of the utility of our method of substitution in resolving certain cases

of maxima and minima in the differential calculus. We will give only one example, assuring the reader that many others may be solved similarly, some of which we hope to publish extraneously in the future. It is as follows :

Determine (1) the dimensions of a rectangular room from the following data : Its diagonal measures $a=25$ feet ; its entire surface contains $b=1056$ square feet ; and its capacity is $n=2160$ cubic feet.

Find (2) its dimensions and capacity, when, its diagonal and surface remaining the same, its capacity shall be a maximum, and also a minimum.

SOLUTION.

(1) Let x , y , and z represent the dimensions of the room ; then from evident principles of geometry we have the equations :

$$\sqrt{(x^2+y^2+z^2)}=a=25 \quad . \quad . \quad . \quad (1)$$

$$2xy+2xz+2zy=b=1056 \quad . \quad . \quad . \quad (2)$$

$$\text{and } xyz=n=2160 \quad . \quad . \quad . \quad (3)$$

By our method of substitution we have

$$x+y+z=s=\sqrt{(a^2+b)}=41,$$

$$xy+xz+zy=m=\frac{1}{2}b=528.$$

Hence the three roots of the following equation must be interchangeably the dimensions of the room :

$$x^3-x^2\sqrt{(a^2+b)}+\frac{1}{2}bx=n \quad . \quad . \quad . \quad (4)$$

Substituting numerical values in (4) it becomes,

$$x^3-41x^2+528x=2160 \quad . \quad . \quad . \quad (5)$$

The three roots of (5) are found to be 20, 12, and 9. $\therefore$ The dimensions of the room are 20, 12, and 9 feet, interchangeably.

(II) As equation (4) is a general expression for the capacity of the room, it is plain by the principles of the calculus that to find maximum and minimum values of the unknown quantity in it, all we shall have to do is to put its first differential coefficient equal to zero to find them.

$$\text{Hence we have, } \frac{dn}{dx}=3x^2-2\sqrt{(a^2+b)}\times x+\frac{1}{2}b=0 \quad . \quad . \quad (6)$$

Resolving (6) in connection with (1) and (2) we find that $x=y=\frac{1}{3}\sqrt{(a^2+b)}\pm\frac{1}{3}\sqrt{(4a^2-2b)}=[\text{by substituting numerical for lit-}$

eral values]=16.949619, or 10.383714 feet (7)

And $z = \frac{1}{3} \sqrt{[5a^2 - b \mp 2 \sqrt{(4a^4 + 2a^2b - 2b^2)}]} = [\text{by substituting numerical for literal values}] = 7.100762, \text{ or } 20.232572 \text{ feet} (8)$

Applying the well known tests for maxima and minima we find that the following dimensions give the required maximum and minimum capacities of the room :

$$\left\{ \begin{array}{l} x=16.949619 \text{ ft.} \\ y=16.949619 \text{ ft.} \\ z=7.100762 \text{ ft.} \end{array} \right\} \begin{array}{l} \text{a minimum;} \\ \text{n} \end{array} \quad \begin{array}{l} \text{a} \left\{ \begin{array}{l} x=10.383714 \text{ ft.} \\ y=10.383714 \text{ ft.} \\ z=20.232572 \text{ ft.} \end{array} \right\} \text{a maximum.} \\ \text{d} \end{array}$$

From the former, $xyz=2039.9749628$ cubic feet, the minimum capacity of the room.

From the latter, $xyz=2181.5065944$ cubic feet, the maximum capacity of the room.

The diagonal of both rooms will be found to be 25 feet, and the entire surface to contain 1056 square feet.

To those but slightly acquainted with the calculus and the subject of maxima and minima it might be well to explain.

There is only one room that can have a certain diagonal, surface, and capacity. If the capacity, however, be not limited, there may be an indefinite number of rooms that can have a certain diagonal and surface. Hence out of this indefinite number there must be some one that is the greatest possible, and also some one that is the least. These it is one of the offices of the differential calculus to determine, and these we have found in our problem, aided by our method of substitution, as it furnishes in (4) the proper equation for differentiating, which it would be found very difficult to obtain in any other way. It is interesting to note that the same differentiated equation, No. (7), furnishes both two of the dimensions of the maximum room and two of the minimum, which are the same in both cases, two and two alike.

SUMMATION OF A SERIES. Charles Hutton says that the series,

$\frac{1}{1}, \frac{1}{4}, \frac{1}{9}, \frac{1}{16}, \frac{1}{25}, \frac{1}{36}, \frac{1}{49}, \frac{1}{64}, \frac{1}{81}, \frac{1}{100}, \frac{1}{121}, \frac{1}{144}, \&c.,$
squares of fractions, can be summed; that it is *finite*, and equal to the square of the circumference of the circle divided by 6, or equal to $\frac{1}{9}$ of π^2 . He says the sum was first found by John Bernoulli. Where can Bernoulli's summation be found?

Hutton says as to the summation of the series in which the denominators are the cubes of the natural numbers, Bernoulli acknowledged he could not find it. Can the sum be found? If not, why? D.

A Chapter of Quotations on the Devil.

GATHERED BY MRS. ALLAN RANSOM, CHICAGO, ILL.

"And Satan came also among them."—JOB I, 6 ; II, 1.

"And seem an saint when most I play the Devil."—SHAKESPEARE, Richard III, Act I, Scene 3.

"Angels are bright though the brightest fell."—SHAK., Macbeth IV, 3.

"An idle brain is the Devil's workshop."—RAY'S Coll. of Proverbs.

"The idle man's brain is the Devil's workshop."—JOHN KNAPP.

"Idleness is but the Devil's home for temptation."—RICH. BAXTER.

"Idleness is the cushion upon which the Devil chiefly reposes." — ROBERT BURTON.

There are some Tuscan proverbs which are very much akin to the above :

"A lazy man is the Devil's bolster."

"He who labors is tempted by one Devil, he who is lazy, by a thousand."

"The Devil tempts all, but the idle tempts the Devil." — BOHN'S Polyglot of Foreign Proverbs.

From its very inaction, idleness ultimately becomes the most active cause of evil ; as a palsy is more to be dreaded than a fever. The Turks have a proverb which says that the Devil tempts all other men, but the idle tempt the Devil."—COLTON'S Lacon.

"But you'll have the Devil to pay."

The entire sentence is, "The Devil to pay, and no pitch hot. To pay" the seams of a ship is to pitch them with hot pitch (French, *payer*, from *paix*, *poix*, pitch ; Latin, *pix*). Devil is any dirty slab, hence, "The Devil to pay, and no pitch hot," means the slab is come to pitch the seams of the ship, and there is no pitch hot, — i. e. there is nothing ready ; our money is all thrown away. Hence, "Here's the very Devil to pay," means here's a shocking waste of money.—BREWER.

Moore, "On a Cast of Sheridan's Hand," has the following :

"Good at a fight, better at a play,
Godlike in giving, but the Devil to pay."

Swift preached an assize sermon, and in the course of it was severe upon the lawyers for pleading against their consciences. After dinner a young counsel said some severe thing against the clergy, and did not doubt were the Devil to die, a parson might be found to preach his funeral sermon. "Yes," said Swift, "I would, and would give the Devil his due, as I did his children, this morning."

"Coöperate Diabalo" (with the assistance of the Devil).—RILEY'S Dictionary of Latin and Greek Quotations.

"Culture has also licked the Devil into shape."—GOETHE, Faust.

Another translation gives :

"Culture which smooths the whole world licks,
Also unto the Devil sticks.

Another :

"The culture, too, that shapes the world at last hath e'en the Devil in its sphere embraced."

Another :

"Culture, which has licked the whole world into shape has at length also reached the Devil himself."

Still another :

"The march of intellect too, which licks all the world into shape, has even reached the Devil."

"De Duivel zit achter het cruïs" (The Devil sits behind the cross).—BOHN'S Polyglot of Foreign Proverbs.

The French say :

"The Devil often lurks behind the cross."

In Don Quixote, i, 6, is the same proverb to be found.

"Tras la cruz está el diablo"; only too applicable to Spain. In English we say : "The nearer the church, the farther from God."

"The Devil take the hindmost."—BEAUMONT & FLETCHER, Bonduca iv, 3. BUTLER, Hudibras, Part i, Canto ii, line 633. PRIOR, Ode on Taking Nemur. POPE, Dunciad, Book ii, line 60. Burns, To a Haggis.

In Scotland, it is said, when a class of students have made a certain progress in their mystic studies, they are obliged to run through a subterranean hall and the last man is seized by the Devil and becomes his imp.

"Occupet extremum scabies."—Latin, HORACE.

"Shame come upon all that lag behind, that do not push forwards, that do not *go ahead*. Plague take the hindmost." A proverbial form of expression, borrowed from the sports of the young.

"Dieu et de Diable; c'est la toute religion" (God and the Devil make the whole of religion).—NICOLI.

"Down, down to hell, and say, I sent thee thither."—SHAK., Henry VI, Part iii, Act v, scene 6.

"Ein mensch ist des andern Teufel." (One man is another's Devil.)—BOHN'S Polyglot of Foreign Proverbs.

"Get thee behind me, Satan."—MATTHEW xvi, 23. LUKE iv, 8.

"Give the Devil his due."—RAY's Proverbs. SHAKESPEARE, Henry IV, Part I, Act I, scene 2. NASH, Have with you to Saffron Waldron, 1596. DRYDEN, Epilogue to the Duke of Guise.

The same phrase was turned very wittingly by a member of the bar in North Carolina, some years ago, on those of his legal brethren. During the trial of a case, Hillman, Dews, and Swain (the first two named, distinguished lawyers, the last also a distinguished lawyer and president of the university of the state) handed James Dodge, the clerk of the Supreme Court, the following epitaph :

"Here lies James Dodge, who dodged all good, and never dodged an evil ;

And after dodging all he could he could not dodge the Devil."

Mr. Dodge sent to the gentleman the following impromptu reply :

"Here lies a Hillman and a Swain, their lot let no man choose,
They lived in sin and died in pain, and the Devil got his Dews."

"Go, poor Devil, get thee gone." — LAURENCE STERNE, Tristram Shandy, original edition, Vol. II, chap. XII.

"Heaven sends meat, but the Devil sends cooks."

"God sends meat but the Devil sends cooks." — RAY's Proverbs. THOM's English Prose Romance, 85. TAYLOR, Works, 1630, Vol. II, p. 85.

"Heaven sends us good meat, but the Devil sends us cooks." — GARRICK, Epigram on Goldsmith's Retaliation.

"Hell and chancery are always open." — BOHN's Polyglot of Foreign Proverbs. BOHN's Index to Ray's Proverbs.

"Hell hath no limits, nor is circumscribed." — MARLOWE, Faustus.

"Hell is paved with good intentions."

A proverb, full of wit and fully understood, meaning the road to hell is paved with good intentions, for to give it any other interpretation would lead to an absurdity.—JOHNSON, Boswell's Life of Johnson, an. 1775, chap. XLIX. RAY's Proverbs.

St. Francis de Sales writes to Madam de Chantal, 1605 :

"Do not be troubled by St. Bernard's saying that hell is full of good intentions and wills."—Selection from the Spiritual Letters of FRANCIS DE SALE ; Letter XII, translated by the author of a Dominican Artist.

"Hell is full of good meanings and wishings."—GEORGE HERBERT, Jacula Prudentum.

The Italians and Spaniards say, "Hell is full of good intentions" ; the Portuguese say, "Hell is paved with good intentions." Political proverb, "Washington is paved with good intentions."—N. Y. SUN.

"Hell is paved with women's tongues."—ABBE GUYON.

"Hell is whatever Heaven is not."—BOHN's Index to Ray's Proverbs.

"He must have a long spoon that eats with the Devil."—CHAUCER, The Squiere's Tale, Part II, line 10,916. HAYWOOD's Proverbs. MARLOWE, The Jew of Malta, Act III, scene 5. SHAK., Comedy of Errors, IV, 3. Apicius and Virginia. RAY's Proverbs.

The Danes say: "He needs a long spoon that would eat out of the same dish with the Devil."—BOHN's Polyglot of Foreign Proverbs.

"He must needs go that the Dyvell Dryveth."—HEYWOOD's Johan the Husbände, etc, 1533. PEELE, Edward I. SHAK., All's well that ends well, I, 3. GOSSEN's Ephemerides of Phialo. RAY's Proverbs.

"He that takes the Devil into his boots must carry him over the sound."—RAY's Proverbs.

"Idle men are the Devil's playfellows."—BOHN's Index to Ray's Proverbs.

"Men are women's playthings, women are the Devil's."—VICTOR HUGO.

"I beheld Satan as lightning fall from heaven."—LUKE X, 18.

"It an ill battle where the Devil carries the colors."—RAY's Proverbs.

"Let the Devil wear black."—SHAK., Hamlet III, 2.

"Oh, shame to men, Devil with Devil damned."—MILTON, Paradise Lost, Book II, line 496.

"Resist the Devil and he will flee from you."—JAMES IV, 7.

"Satan finds some mischief still for idle hands to do."—ISAAC WATTS, Divine Songs, Song XX.

"Satan, so called him now, his former name is heard no more."—MILTON, Paradise Lost, Book V, line 658.

"Satan trembles when he sees the weakest saint upon his knees."—COWPER, Exhortation to Prayer.

"Seldom lies the Devil dead in a ditch." "We are not to trust the Devil or his children, though they seem ever so gentle and harmless, without all power or will to hurt. The ancients in a proverbial hyperbole, said of a woman, *muliere ne credas ne mortua quidem*; because you might have good reason to suspect that she feigned, we may with more reason say the like of the Devil, and diabolical persons, when they seem most mortified."

Perchance this proverb may allude to the fable of the fox, which escaped by feigning himself dead.

"Stole the livery of the court of heaven to serve the Devil in,"—ROBERT POLLOCK, The Course of Time, Book VIII, line 616.

"I know no phrase more frequent in the mouths of French and Italians than this. 'The Devil is dead'; to signify that a difficulty is almost conquered, a journey almost finished, or, as we may say, 'The neck of the business is broken.'"—RAY's Proverbs.

"Some hope to merit heaven by making earth a hell." — BYRON, *Childe Harold's Pilgrimage*, Canto I, stanza 20.

"Talk of the Devil and he will either come or send."

"The Devil is never nearer than when we are talking of him." — RAY's Proverbs.

Terrence or Terrentius, in his comedy *Adelphi*, the Brothers, makes Syrus say, in Act IV, scene 1, "The Wolf in the Fable. This was a proverbial expression, tantamount to our saying, 'Talk of the Devil he's sure to appear.'"

Servius, in his commentary on the ninth Eclogue of Virgil, says the saying arose from the common belief that the person whom a wolf set his eyes upon is deprived of his voice, and thence came to be applied to a person who, coming upon others in the act of talking about him, necessarily put a stop to their conversation.

"I will tell truth and shame thee fiend." — BEN JONSON, *The Devil is an Ass*, Act V, scene 5.

"Tell the truth and shame the Devil." — SHAK., *Henry IV*, Part I, Act III, scene 1. BEAUMONT & FLETCHER, *Wit without Money*, Act IV, scene 1. SWIFT, *Mary the cookmaid's Letter*. BOHN's Index to Ray's Proverbs.

"Teufel musz man mit Teufel naustreiben," that is, "Devils must be driven out with Devils." — BOHN's Polyglot of Foreign Proverbs.

"That one hunting which the Devil designed for one fair female." — DRYDEN, *Theodore and Honoria*.

"The bane of all that dread the Devil." — WORDSWORTH, *The Idiot Boy*.

"The Devil can cite Scripture for his purpose." — SHAK., *The Merchant of Venice*, Act I, scene 3.

"The Devil hath not, in all his quirer's choice." — BYRON, *Don Juan*, Canto XV, stanza 13.

"The Devil has power to assume a pleasing shape." — SHAK., *Hamlet*, Act II, scene 2.

"The Devil is ever God's ape." — TURTULLIAN.

"The performances of witchcraft were originally so religious that they impressed the church as the effort of Satan to set up a rival religion with himself as chief god. A similar continuance of pagan rites at an earlier period had led Turtallian to say, 'Satan is the ape of God.'" — CONWAY.

The Germans say : " The Devil is civil when he is flattered."—BOHN's Polyglot of Foreign Proverbs.

" The Devil is good when he is pleased."—RAY's Proverbs.

" The Devil's gude when he's pleased."—ALEXANDER HISLOP, Scottish Proverbs.

" The Devil is never so black as he is painted."—BOHN's Polyglot of Foreign Proverbs.

The Italians and Portugese say : " The Devil is not so ugly as he is painted." " The Deil's no sae black as he's ca'd." — ALEXANDER HISLOP, Scottish Proverbs.

" Hout tout neighbour, ye maunua tak the world at its word," said Saddletree ; " the very deil is no sae ill as he's ca'd."—SCOTT, Heart of Midlothian.

" The Devil is not always at one door."—RAY's Proverbs.

" The Devil was sick, the Devil a monk would be,
The Devil was well, the Devil a monk was he."

" The deil was sick, the deil a monk wad be ;
The deil grew hale, syne deil a monk was he."

—FRANCIS RABELAIS, Works, Book IV, chap. 24.

Meaning promises of amendment made on a sick bed are seldom kept.—ALEXANDER HISLOP, Scottish Proverbs. RAY's Proverbs.

" The Devil also believes and trembles."—JAMES II, 19.

" The Devil's meal is half bran."—RAY's Proverbs.

The French say : " La farine du diable n'est que bran," or " s'en ra moitié en bran."

" There was a laughing Devil in his sneer."—BYRON, The Corsair, Canto I, stanza 9.

" 'Tis a sin to belie the Devil."—RAY's Proverbs.

" What is gotten over the Devil's back is spent under his belly," meaning, what is got by oppression, or extortion is, many times, spent in riot and luxury.—RAY's Proverbs.

" Isocrates was in the right to insinuate, in his elegant Greek expression, that what was got over the Devil's back, is spent under his belly."—LESAGE, Gil Blas, Book VIII, line 9.

" We paint the Devil black, yet he hath some good in him."—GEORGE HERBERT.

" Where God erects a house of prayer, the Devil builds a chapel."—DEFOE, The True-born Englishman, Part I, line 1.

" Where God hath a temple, the Deuil will have a chapel." — BURTON, Anatomy of Melancholy, Part III, section IV.

" There is a Devil in every berry of the grape."—From the Koran.

" God never hath a church, but there, men say,
The Devil a chapel hath raised by some wyles ;
I doubted of this saw till on a day,
I westward spied great Edinburgh's St. Gyles."

—DRUMMOND, *Posthumous Poems*.

" No sooner is a temple built to God, but the Devil builds a chapel hard by."—GEORGE HERBERT, *Jacula Prudentum*.

The Germans say : " Where God builds a church, the Devil builds a chapel."—BOHN'S *Polyglot of Foreign Proverbs*.

" Where God hath his church, the Devil will have his chapel."—RAY'S *Proverbs*.

" Your adversary, the Devil, as a roaring lion, walketh about."—I PETER v, 8.

Following are a few more quotations :

" The Devil, who is always lurking for his prey." — LESAGE, *Gil Blas*, Book II, chap. 7.

" The Devil would have no great catch in the best of us." — LESAGE, *Gil Blas*, Book III, chap. II.

" The Devil will levy his due out of every transaction." — LESAGE, *Gil Blas*, Book VIII, chap. xv.

" And the assuming of a saint when he played the Devil most." — LESAGE, *Gil Blas*, Book V, chap. i.

" Where the church makes the feast, the Devil should not send cooks."—LESAGE, *Gil Blas*, Book V, chap. i.

" We each of us provided for ourselves, and left the Devil to take the hindmost."—LESAGE, *Gil Blas*, Book I, chap. v.

" Hector himself would say, ' Devil take the hindmost,' when there are but twenty against a thousand."—WALTER SCOTT, *Old Mortality*, chapter xv, p. 180.

" Assistance of the Devil." — WALTER SCOTT, *Castle Dangerous*, chapter XVIII, p. 157.

" Many might to to heaven with half the labor they go to hell." — BEN JONSON.

" Heaven invites, hell threatens."—YOUNG, *Night Thoughts*.

" It is a knell that summons thee to heaven or to hell." — SHAK., *Macbeth*, Act II, scene i.

" The hell I suffer seems a heaven."—MILTON, *Paradise Lost*.

" Can make a heaven of hell, a hell of heaven." — MILTON, *Paradise Lost*.

"Better to reign in hell than serve in heaven."—MILTON, *Paradise Lost*.

"All places shall be hell that are not heaven."—MARLOWE, *Faustus*.

"The Devil and love are but one."—VOLTAIRE.

"The Devil must be very powerful, since the sacrifice of a god for men has not rendered them any better."—PIRON.

"The Devil is the brother of the angels."—BOUFFLÈS.

"The cleverest of all Devils is opportunity."—VIELAND.

"Men are women's playthings, women are the Devil's." — VICTOR HUGO.

"Woman is the organ of the Devil."—ST. BERNARD.

"Woman is a perfected Devil."—VICTOR HUGO.

"Women give themselves to God when the Devil wants nothing more to do with them."—SOPHIE ARNOULD.

"There will be the Devil to pay, and no pitch hot." — SCOTT, *The Pirate*, chapter XXXVI, p. 287.

THE BOOK OF LIGHT AND LIFE; or, the Essence of the Sohar, Pertaining to the Mysteries of Man, the Christ, and his Coming Kingdom. By Peter Davidson. "In Nature's infinite book of Mystery I have a little read." — SHAKESPEARE. Peter Davidson, Loudsville, White Co., Georgia, U. S. A. T. L. Mason, Rafford, Forbes, Scotland, 1891. 8vo. pp. 240. Price, (4 shillings) \$1.00. "Dedicated to my literary friends and acquaintances; to those who have not forgotten me in this endeavor, or failed to place reliance in supporting me in the labors of the past; to all sincere lovers of the truth and non-bigots, but chiefly, to all who, dissatisfied with the humanized whims, shams, shows, and frivolities of a worldly life, long for glimpses of more permanent and better things, this is crude volume humbly and gratefully dedicated by the author. Chap. I. The Bible of Humanity. II. Mysteries Pertaining to Man. III. The Christ of the Kabala. IV. Mysteries of the Soul. V. The Christ, the Cross, the Church. I. Death, Ancient Initiations. VII. The New Advent, the Coming Reformer. "Jesus is a being whose entire life is one continuous miracle. He is one of those innumerable Sons of God, or Æons, each of whom is charge with the government of a Planetary Sphere which they guide and direct, along with its Humanity, until it ultimately reaches perfection."—ROUSTAING.

The book is full of arcane knowledge for the Freemason, the Rosicrucian, the Initiate and all interested in the mysteries, the wisdom-religion, and esoteric matters.

MISCELLANEOUS

NOTES AND QUERIES,

WITH ANSWERS.

"The gods are come down to us in the likeness of men." — ACTS XIV, 11.

VOL. IX.

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No. 5.

HANNAH F[LAGG] GOULD'S POEMS. We have been asked for a list of Hannah F. Gould's published volumes, which we append to this sketch in the order as we understand the volumes appeared.

Hannah Flagg Gould was born in Lancaster, Vermont, in 1789, and died in 1865. In early life she moved to Newburyport, Mass. Sarah Josephine Hale says of her : " She takes lowly and homely themes, but she turns them to the light of heaven, and they are beautiful, refined and elevated. In truth the great power of her poetry is its *moral* application. This hallows every object she looks upon, and enobles every incident she celebrates." The number of editions of her volumes is the best proof of her popularity as an author.

In 1832 she published a volume of poems, which had originally appeared in the periodicals of the day, pp. 174 ; a second and third edition of this volume appeared, the latter in 1835, with seventeen additional poems, pp. 239. In 1836, a second volume was published, pp. 192. In 1841, a fourth edition of volume I ; a second edition of volume II, with twenty-four additional poems, pp. 240 ; and a third volume, pp. 240. In 1846 she published a collection of her prose articles under the title of *Gathered Leaves, or Miscellaneous Papers*. In 1850 she published a volume of *New Poems*, pp. 287. In 1851 she published the *Disoma, a Perennial*, a volume of original and selected poems, pp. 287. In 1851 also appeared the *Youth's Coronal*, poems for little people. In 1853 appeared the *Mother's Dream*, and other poems. In 1854 appeared a volume of *Hymns and Poems*.

Theosophy and Ethics.

BY E. T. STURDY, LONDON, ENG.

In his search after a rule of life, man's first necessity would seem to be an ethical code by which to think and act ; yet as soon as he sets himself to formulate his code, he finds that ethics cannot stand alone, but must be correlated with metaphysics and science.

Metaphysics, science, and ethics, then, stand to the student of Theosophy as an inseparable trinity ; metaphysics must be scientific and ethical ; science must be metaphysical and ethical ; ethics must be metaphysical and scientific. These three factors must be in harmony. Wherever they clash there is some false conclusion in one or more of them. The head and the heart, intellect and aspiration, must not contradict each other ; for if they do, either the reasoning is false, or the aspirations futile.

Starting, then, from this wide basis, all the events of life have a threefold significance. We learn some scientific fact, and if we are sufficiently intuitive, its interest may be intensified for us by its containing a moral lesson also, and thus becoming a guide in the attitude we should strive to maintain towards our fellowmen and the whole of nature. An ethical rule founded upon such conclusions as these, although it may have limitations, does not err within these limitations, unless indeed reasoning and observation are perverted in all three cases. A code founded upon dogma, since it must be accepted blindly by its follower, is out of harmony and does not satisfy the two other requirements of his nature, viz., metaphysics and science.

If we diligently maintain this position, we illuminate to a very large extent, the liability to error ; we must constantly check our knowledge and our aspirations in all three departments. Sometimes the heart rebels and would coerce intelligence ; more often the senses, misinterpreting the data given them, would overthrow both the head and the heart. But head, heart, and senses must learn to walk hand in hand, and be in perfect harmony and equilibrium.

Since ethics forms our subject, in attempting to lay down ethical rules, we may just as aptly start from ethical as from metaphysical, or scientific statements, so long as we are prepared to support the former by the latter. When therefore we say for instance, " Serve thy neighbor as thy very self," we are prepared to endorse this with all the conclusions we draw from our metaphysics and our science. And since we say, " All men are myself," would create a confusion on this plane and separateness, we say here, " All men are brethren," that is, they are one in origin, and one in essence.

We are putting forth no new idea ; rather it is the new idea to draw

arbitrary lines and shut up different " departments " of knowledge in water-tight compartments. Knowledge is one. In the East for thousands of years, as far back as record or tradition will carry us, even up to the present day, we find no distinction arbitrarily drawn between metaphysics, science, and ethics. They are treated " religiously." A Brahman will discuss with you from the scientific standpoint the deepest problems of his religion. If you have his confidence, he will unfold to you the *scientific* reasons he has for his ethics.

Our Western science, boring away into a grove of its own and ignoring other knowledge, has limited itself, nor can it understand science as blended with metaphysics and morality as it is pursued in the East.

Our Western religion, fighting for centuries against science, and severely shattered by it, cannot understand the religious thought of the East.

But the inevitable result of this antagonism is at hand, for a mutual destruction of all that is contradictory in our science and religion is proceeding apace. It will not end until the two are amalgamated ; it will not cease until the offices of our priests and scientists have become one, and from their union, with a good deal added, the teacher of the future, theologian, moral expositor and scientist of a new type will arise. It is at this critical period when science and theology alike, fail to satisfy man's cravings, that Theosophy has sprung once more into manifestation in the West ; it has come into *manifestation* again ; it has not been reborn, for there is no century throughout the Christian era when it did not live in the hearts of the few ; and further East is its true home where it has always been in evidence for those whose time had come to receive it.

To the student of Theosophy his researches bring a vast illumination to bear upon the critical codes of all the great religions of the world.

Pursuing science in connection with metaphysics and ethics, constantly welding these into the homogeneous whole of knowledge, which stands for him as his total of experience of life, constantly trying and chastening this knowledge by deep analysis of his own mind, thus casting out all bias, until in what he knows there is no flaw, he proceeds to even deeper and deeper problems ; and always by conforming in thought, word and act with what he, so far, understands. Standing thus to some extent untrammelled, he may study those profound problems, Karma and Reincarnation. Whilst he has not freed his mind from prejudice, whilst he has not felt the limitations and selfishness of his personality, he may take a general view of these conceptions, but he cannot seek deep into them and understand in all their scientific bearings doctrines which treat the personality honestly at its true worth and rise to questions far beyond it.

Therefore fulfill what you know ; harmonize what you have of knowl-

edge in metaphysics, science and morals ; cast out what you find does not harmonize, and start on this small stock of knowledge as your foundation. Use many " working hypotheses " ; they are the ladders and scaffolds of your building, but work nothing into your edifice that may have to come out again, if you can help it.

A great Indian sage has said :

" One who, having passed through the said preliminaries, desires *knowledge* for final absorption, must set himself seriously *to thinking*."

Knowledge is not produced by any means other than right *thinking*, just as objects are never perceived but by the help of light.

In another Eastern book it is said : " What a man thinks, that he inevitably becomes ; this is the old secret." The Jewish Scriptures and the teachings of Jesus bear evidence to the same fact.

Now proceeding by the methods herein advocated, a Theosophist can take these statements as a *theorem* and utilizing his researches can trace in the three departments truth of them, and each will support and blend with the other.

Thoughts are *things* upon their own plane, and Eastern science knows this. Man is the producer of thoughts, therefore of things ; he is bound to what he produces and is answerable for the good or ill caused by his productions, first on the plane of thought, then through speech, and lastly by action. A man may sit at home and feel satisfied with himself that he has done no harm ; but he thought angrily of his neighbor, and sent forth from himself, formed of his own substance, a winged thing to go out and work evil ; that evil form which he has produced and imbued with life, continues in existence, and is part of himself, and must inevitably return and bui'd itself unto him somewhere, unless he recalls it and destroys it by its opposite. So thought follows thought, and these, both good and evil, clothe themselves in us, and take shape as body, moulding our features, and selecting our surroundings, which we are bound to accept and suffer or enjoy in, as our thoughts were evil or good. So I read Eastern science and ethics.

Understanding thus, the field of our responsibility is enormously increased ; thought is immeasurably more far-reaching than word or deed. The greatest originators of misery and evil, to themselves and to others, may never appear in the world as anything beyond quite insignificant beings ; yet the thoughts emanating from them may be intense and virulent, and scattering over the world like the spores of a disease may settle in the minds of weak, unguarded or naturally receptive people. Vast as is the mischief caused by an ambitious soldier, bringing death, disease and misery to hundreds of thousands, yet he may withal be generous, open-handed and forgiving ; his evil activities are *mostly* on the most limited plane of all, that is, the material ; and he may rank behind some unknown, undreamed of demon in hu-

man shape who revenges himself in thought, hates and envies with an active mind, through most of his waking consciousness. And so, to, the reverse of all this stands. The most far extending benefits the human race receives may come from those who are unseen and little heard of, beings whose quiet lives are spent in benevolent thought, and the consequent production of thought-forms of purity and right aspiration, which floating over the world like crystal vases filled with light, may settle wherever they may find reception, driving out the powers of evil and giving rise to hope and aspiration, and the perception of possibilities never seen before. And this production of thought-forms, either good or bad, goes on unconsciously with the mass of mankind, but consciously with the few.

It must not be concluded from this that seclusion, silence and external inactivity are advocated; very far from it. The man who is starving is not saved by your wishing he had bread, but by your wish intention, and your intention accomplished act. Good will must be accompanied by good activities, otherwise it becomes mere philosophical abstraction, and with much time spent in pondering over good theories we may remain in actuality intensely selfish.

"THE ROAD TO HELL IS PAVED WITH GOOD INTENTIONS."

With the exception of this expansion of responsibility comes the ethical necessity of controlling the thoughts, emotions, and passions. With the control and right direction of mind, selfishness diminishes, and the personality dwindles to the right proportions. But consciousness does not dwindle, but it increases immeasurably; it is expanded over thousands unseen and unknown to the personality, but seen and known as minds by the sovereign indwelling mind on its own plane; devoid of names, devoid of forms as we understand these, but nevertheless *beings*, and beings immeasurably superior to the forms they inhabit. Thought-forms can only proceed from corresponding activities on the plane of thought, and consequently from actors on that plane. They cannot be originated there by the physical brain, which is only the register of what takes place there.

Reasoning thus, we learn that there are sources of evil which man must cut off. He must crush all evil productions within himself, and he must be proof against those coming from without. By sterilizing the soil within himself, he leave nothing by which evil from without can strike root. This is only done by long effort, by abstraction from evil trains of thought and concentration upon good ones. The higher at length kills the lower; they cannot flourish on the same soil. And this effort needs perseverance and courage. Day following day, year by year, the effort tells and transforms the very mind of the man; thoughts and temptations which were dangers to him no longer trouble; they seem no longer to exist for him. And so by analogy he knows

that he will continue to conquer as long as he makes effort. We find how easily we acquire some slack habit, or way of thinking ; it is because we follow our *desires* ; equally we may acquire good habits and the power of right thinking by following our *fixed will*, if once we have centered it on its proper object. Will and desire are the divine and infernal manifestations of the same force.

Men sacrifice time, youth and strength, love, society, and friendship, to the satisfying of their ambition, greed, and vanity, and the world looks on and says nothing ; but when these things are renounced for the pursuit of truth, then there is an outcry of inhumanity, selfishness and the like. The world legitimatizes the former, but she loves not the latter. Her very foundations are laid in sensualism and strife, but truth is the mighty solvent which dissipates all this. Hence in both Buddhism and Christianity the earth is described as quaking when their respective founders made their greatest conquests.

To every man one especial thing has the highest value, and for that he makes his supreme sacrifice ; it may be little or great, according to his character and will. To the true Theosophist Wisdom is the jewel invaluable beyond all other possessions, and for it he makes his supreme sacrifice in life. But the measure of the sacrifice is the precise measure of the price he is willing to pay for Wisdom. He himself is the price, and he offers himself up little by little as his will and his estimate of the value of truth serve him. The altar on which he sacrifices himself is the World, for the good of the world and for the satisfaction of his expanding consciousness, which ignoring the selfish conditions of the personality, passes beyond this and lives by higher laws of its own.

It will be seen that from a Theosophical standpoint it is impossible to treat of ethics alone, and that the "New Testament," the "Bhagavad Gita," or any other book of moral teachings cannot be learned and understood properly without the gaining of other knowledge also. Ignorance must be removed if wisdom is to be gained.

WASHINGTON A FREEMASON. What is the record of George Washington as a freemason ? I have heard it stated that he never received the masonic degrees. A MASON.

"Washington was born February 2, 1732 ; initiated an Entered Apprentice Mason in Fredricksburgh Lodge No. 4, Virginia, November 4, 1752 ; passed to the degree of Fellow Craft, March 3, 1753 ; and raised to the sublime degree of a Master Mason, in due and ancient form, August 4, 1753. On the 28th of April, 1788, he was appointed Master of Alexandria Lodge No. 39, by the Grand Master, Edmund Randolph, Governor of Virginia, and remained an active member of that lodge until his death, December 14, 1799." — *American Tyler*.

HOW TO FORETELL THE WEATHER. A. J. De Voe, of Hackensack, N. J., sent to the Farmers' Club of the American Institute the following ten short rules, by the use of which, it is said, one in any part of the northern hemisphere, north of latitude 15° , can form a quite accurate opinion of how the wind and weather are progressing for a hundred miles around him :

1. When the temperature falls suddenly, there is a storm forming south of you.
2. When the temperature rises suddenly, there is a storm forming north of you.
3. The wind always blows from a region of fair weather toward a region where a storm is forming.
4. Cirrus clouds always move from a region where a storm is in progress, toward a region of fair weather.
5. Cumulus clouds always move from a region of fair weather, toward a region where a storm is forming.
6. When cirrus clouds are moving rapidly from the north or northwest, there will be rain in less than twenty-four hours, no matter how cold it may be.
7. When cirrus clouds are moving rapidly from the south or southwest, there will be a cold rain storm on the morrow if it be summer, and if it be winter there will be a snow storm.
8. The wind blows in a circle around a storm, and when it blows from the north the heaviest rain is east of you ; from the south, the heaviest rain is west ; from the east, the heaviest rain is south ; from the west, the heaviest rain is north of you.
9. The wind never blows unless rain or snow is falling within one thousand miles of you.
10. Whenever a heavy white frost occurs, a storm is forming within one thousand miles north or northwest of you.

METAPHORICAL RELATIONSHIP. (Vol. IX, p. 64.) I will add the following to the chapter already commenced: SEARCHER.

"Liberty not the daughter but the mother of order."—*Proudhon*.

"Devotion ! daughter of astronomy !"—*Night Thoughts*, IX, 760.

"AN UNDEVOUT ASTRONOMER IS MAD." (Vol. IX, p. 38.) The line "An undevout astronomer is mad" is found in Young's "Night Thoughts," Night IX, l. 771. It has much the same sentiment as the line from Eudokia, "He who admires not, to the stars is blind."

"DESCRIPTION OF THE ADMIRABLE TABLE OF LOGARITHMS: with a Declaration of the most Plentifull, Easie, and Speedy use thereof in both kinds of Trigonometry, as also in all Mathematicall Calculations, Invented, and published in Latine by that Honourable Lord JOHN NEPAIR, Baron of Marchiston, and translated into English by the late learned and famous Mathematician, EDWARD WRIGHT. With an addition of the Instrumentall Table to finde the part Propotionall, intended by the Translator, and described iu the end of the Booke by Henry Briggs, Geometry reader at Gresham House in Londou. All persued and approved by the Authour, and published since the death of the Translator' whereunto is added new Rules for the ease of the Student. London; Printed by Simon Waterson, 1618." Old calf; 18mo: pp. 96.

This book is described by Charles Hutton, in his "Mathematical Tracts," Vol. I, pp. 318-322, where he says it is the original edition of 1614, with a new title-page dated 1618.

A foot-note in Oliver Byrne's work on "Logarithms," p. x, of the Introduction, says:

"According to Kepler, *Juste Byrge*, assistant astronomer to William Landgrave of Hesse, invented and projected logarithms; he composed a table of sines for every two seconds of the quadrant long before Napier's time, Byrge was a Frenchman; M. Mansel especially mentions him as having invented the proportional compasses, which others have ascribed to *Gallileo*. *Tycho Brahe*, also in his "Progymnasmata," Vol. II, mentions the works of *Byrge*. *Napier* was not the inventor of logarithms; he merely introduced them into England."

There has been much controversy as to whom the real credit belongs for the invention. It seems to involve the invention and the projection of logarithms.

"MOSES AND AARON. Civil and Ecclesiastical Rites, Vsed by the ancient Hebrewes; observed, and at large opened. for the clearing of many obscure Texts thorowout the whole Scriptvre, which text are now added to the end of the Booke. Herein Likewise is shewed what cvstomes the Hebrewes borrowed from Heathen people: And that many Heathenish cvstomes, originally haue beene vnwarantable imitations of the Hebrewes. The fourth edition, By Thomas Godwyn, B. D. London: Printed by Iohn Hauiland, and are to bee sold by R. Rayston, at his shop, in Iuie Lane, next the Exchequer-Office, 1631." Old calf; small quarto, pp. 312.

This is the old book inquired for by "ARCHIBALD," and though not very common, it will be found in the large libraries. It contains a large amount of curious information bearing on the Hebrew writings.

Questions and Answers.

"UNTIL SHILOH COME." (Vol. IX, p. 55.) The Persians say that "four beautiful stars were placed as guardians at the four corners of the world." Now it so happens that at the commencement of the Kali Yuga, 3,000 or 3,100 years before our era, the "eye of the Bull" (Aldebaran) and the "heart of the Scorpion" (Antares) were exactly at the equinoctial points, while the "heart of the Lion" (*Regulus*, "the king") and the "eye of the Southern Fish" (Formalhaut) were very near the solstitial points.

Now the four cherubim were represented by the ox (Taurus), the lion (Leo), the eagle (Aquila), and the man (Aquarius), and these also were representatives of the four points of the Zodiac.

Now then in the XLIXth of Genesis Jacob foretells the destinies of his sons which are well known to represent the twelve signs of the Zodiac. "He set the bounds of the people according to the number of the children of Israel (Deut. xxxii, 8). (See Drummond's "Cedipus Judaicus.)

Taking them in Jacob's order Judah is the fourth; while the lion is the fifth sign and assigned to Judah in the Hebrew zodiac. *Regulus* "the king" very likely is the *Shiloh*, "the coming one," referred to. There are many unsolved astrologic questions relative to Jacob with his sons, and the zodiac, and also "Arcturus with his sons" (Job xxxviii, 32), and "the twelve signs" mentioned in the same verse marginally.

Dr. Kenealy says the word is a Chinese word copied from the Scriptures of Fo-hi, and brought from India by the Jewish priests who knew what it meant. "There shall come a Star out of Jacob" (Numbers xxiv, 17).

Adair tells us that the Indians of India in their circuiting dances, frequently sing on a bass key, *Aluè, Aluè, Aluhè, Aluhè, and Alwàh* which is the Hebrew *Alluh*. They likewise sing *Shilù-Yo, Shilù Hè, Shilu-Hè, Shilu-Wàh, Shilu-Wah, Shilu-Hah, Shilu-Hah*. They transpose them several ways, but with the same notes. The terminations make up in their order the four-lettered divine name, *Yod-He-Vau-He*, Jehovah. *Hah* is a note of gladness; the word preceding it, *Shilu*, seems to express the sound of *Shiloh*, the coming purifier or peace-

maker. Shiloh in the Chinese language signifies *the Sun* and is peculiar to that language.

Hal-Hella-Ouia signifies in the Abyssinian "the delightful land of God." In Ethiopia the women on occasions of public rejoicing are accustomed to repeat the sounds *ellelell-ellelell*, whence "to make ellell," is to rejoice. Hence Hallelujah; Hebrew, *Halleluyah*; and in Greek, *Alleluiah*.

The word *Shiloh* is found in the Hebrew, but is not in the Septuagint. Neither is the word found applied to a person anywhere else in the Bible. Its real meaning seems to be an unsolved problem.

CONJUNCTIONS OF THE PLANETS. (Vol. IX, p. 85.) Eclipses and remarkable conjunctions of the celestial bodies may be regarded as the results of ordinary laws, which nevertheless appear to break the regular course of nature, yet they never fail to excite surprise. Such events vary greatly in frequency. Some one of the satellites of Jupiter is eclipsed nearly every day, but the simultaneous eclipse of three satellites can only take place, according to the calculations of Wargentin, after the lapse of 1,317,900 years. The relation of the four satellites are so remarkable, that it is actually impossible, according to the theory of gravity, that they could be eclipsed simultaneously. But it may happen that while some of the satellites are really eclipsed by entering Jupiter's shadow, the others are either occulted or rendered invisible by passing over his disk. Thus on four occasions, in 1681, 1802, 1826, and 1843, Jupiter has been witnessed in the singular condition of being deprived of satellites.

A close conjunction of two planets always excites admiration, and yet those conjunctions must occur at intervals in the ordinary course of their motions. We cannot wonder that when three or four planets approach each other closely, the event is long remembered. A most remarkable conjunction of *Mars, Jupiter, Saturn, and Mercury*, which took place in the year 2446 B. C., was adopted by the Chinese Emperor, Chuen Hio, as a new epoch for the chronology of his empire, though there is some doubt whether the conjunction was really observed, or was calculated from the supposed law of motion of the planets. It is certain that on the 11th of November, 1524, the planets *Venus, Jupiter, and Saturn* were seen very close together, while *Mercury* was only distant by about 15° , or thirty apparent diameters of the

sun, this conjunction being probably the most remarkable which has occurred in historical times.

METHOD OF LEAST SQUARES. (Vol. IX, p. 85.) Legendre has the credit of being the discoverer of the method of Least Squares.

(Vol. VIII, p. 273 [25].) The general theorem of the method of least squares arrived at and sanctioned by all physicists is this :

"If the mean of a number of distinct observations be calculated, so that the squares of the errors shall be a minimum, the values obtained for the quantities will, under the given circumstances, be the nearest or best obtainable values."

For good investigations of this subject one should examine some treatise, for instance :

Elementary Discussion of the Principles of Least Squares. By Mansfield Merriman. Philadelphia, 1867. pp. 15. The Method of Least Squares applied to a hydraulic problem. By the same author. Philadelphia, 1877. pp. 9. A List of Writings Relating to the Method of Least Squares, with historical and critical notes. By the same author. New Haven, 1877. pp. 82.

An Elementary Treatise upon the Method of Least Squares, with numerical examples of its application. By George C. Comstock. Boston, 1890. pp. 68.

The Method of Least Squares, or the application of the theory of probabilities in the combination of observations. By William Chauvenet. Philadelphia, 1868. pp. 134.

"ELI, ELI, LAMA SABACHTHANI."—Matthew XVII, 46. (Vol. IX, p. 39.) J. Ralston Skinner, in his work, "Key to the Hebrew-Egyptian Mystery, in the Sources of Measure," Appendix VII, p. 300, says the Greek manuscripts, without exception, give the words, "*Eli, Eli, lama sabachthani*"; that they are Hebrew words rendered into Greek, and that the Scripture interpretation of them given as "My God, my God, why hast thou forsaken me!" He says :

"The words will not bear this interpretation, and it is a false rendering. The true meaning is *just the opposite of the one given*, and is :

'My God, my God, how thou dost glorify me!'

"*Lama* is *why*, or *how*, as a verbal it connects the idea of *to dazzle*, or adverbially, it could run '*how dazlingly*,' and so on.

"The Hebrew of this verse for these words is : '*Eli, Eli, lamah asavtha-ni*?' as to which the reference is correct (Psalm XXII, 1), *but with an entirely different word*. No wit of man, however scholarly, can save this passage from *falseness of rendering* on its face."

Dr. E. J. Goodwin's New Ratio of the Circle.

I do not know that the extract from Dr. Goodwin's tract on the value of π was inserted in NOTES AND QUERIES for criticism, but having looked it over, I submit the following remarks :

In the "new ratio of the circle," Dr. Goodwin asserts that "a circular area is equal to the square on a line equal to the quadrant of the circumference." This assertion is not true, because it is demonstrated (Euclid, book I, proposition 5 of supplement), that a circular area is equal to half its circumference multiplied by half its diameter, from which it would follow, if the above assertion was true, that putting q for quadrant and d for diameter, $dq=q^2$, or $d=q$, which we know is not true.

Instead of assuming the diameters of circles to be integral numbers, as is usually done, Dr. Goodwin assumes the circumference to be integral and thence calculates the diameter as follows :

3.1416	:	1	:	:	4	1.2732,
3.1416	:	1	:	:	16	5.0929,
3.1416	:	1	:	:	32	10.1858,
3.1416	:	1	:	:	1024	325.9485 ;

and therefore, as in his four illustrations, the circumference, diameter, and area are related as follows :

		Circumference.	Diameter.		Area ($= 4Q \times \frac{1}{2}d$).
(1)	4	($=8Q_1$)	1.2732	($=d_1$)	1.2732,
(2)	16	($=8Q_2$)	5.0929	($=d_2$)	20.3716,
(3)	32	($=8Q_3$)	10.1858	($=d_3$)	81.4864,
(4)	1024	($=8Q_4$)	325.9485	($=d_4$)	83442.8160.

The third column in the Doctor's illustration is erroneous, as is evident by comparison with his fourth column.

It appears that Dr. Goodwin's new ratio of the circle consists in assuming integral values for the *circumference* of his circles and calculating the corresponding diameters from the known ratio, 3.1416 : 1.

J. E. HENDRICKS, Des Moines, Iowa.

SERIES.

RATIONAL RECTANGULAR TRIANGLES.

By B. F. Burleson, Oneida Castle, N. Y.

[FIRST PAPER.]

In analagous relation to the Pythagorean Proposition we have the following :

The sum of the squares described on the three dimensions of a rectangular solid is equal to the square described on its diagonal.

All right-angled triangles whose sides can be expressed in integers we call rational. Similarly, all rectangular solids whose three dimensions together with their diagonals can be expressed in whole numbers, we may term rational. The least rational right-angled triangle is the one whose sides measure 3, 4, and 5 units respectively. The least rational rectangular solid is the one whose dimensions and diagonal measure respectively 1, 2, 2, and 3 units. Between certain limits there are, as is well known, many series of rational right-angled triangles ; so within certain limits there are many series of rational rectangular solids. We purpose in this, our first paper on the subject of series, to give some interesting facts and formulæ on this class of solids. Our investigation will take the form of proposing problems and giving their solutions.

PROBLEM I.

How many rational rectangular solids are there in which the least dimension does not exceed 100 linear units ?

SOLUTION.

The following series of formulæ will enable us to write out with great ease and celerity the dimensions and diagonals of all such solids that are possible by giving to n in each of them all possible integral values from (1) to any fixed limit. The dimensions are given in the order of their size, commencing with the least.

DIMENSIONS.

(1).	$n,$	$n+1,$	$n^2+n.$
(2).	$2(n+1),$	$2(n+3),$	$n^2+4n+3.$
(3).	$3(n+2),$	$3(n+5),$	$n^2+7n+10.$
(4).	$4(n+3),$	$4(n+7),$	$n^2+10n+21.$
...	...	...	...
(r).	$r(n+r-1),$	$r(n+2r-1),$	$n^2+(3r-2)n+2r^2-3r+1.$

CORRESPONDING DIAGONALS.

(1).	.	.	$n^2+n+1.$
(2).	.	.	$n^2+4n+7.$
(3).	.	.	$n^2+7n+19.$
(4).	.	.	$n^2+10n+37.$
(r).	.	.	$n^2+(3r-2)n+3r^2-3r+1.$

Formulæ (1) give the dimensions and diagonals of the series of all such solids when two of the dimensions differ by 1.

Formulæ (2) give the same in the series of such when two of the dimensions differ by 4 ; etc., etc.

Formulæ (r), being the general formulæ, for any rth series, give the series of solids when two of their dimensions differ by r^2 .

When the limit of the shortest dimension is 100

Formulæ (1) give the series $\left\{ \begin{array}{l} 1, 2, 3, \dots 100 \\ 2, 3, 4, \dots 101 \\ 2, 6, 12, \dots 10100 \\ 3, 7, 13, \dots 10101 \end{array} \right\}$;

Diagonals

Formulæ (2) give the series $\left\{ \begin{array}{l} 4, 6, 8, \dots 100 \\ 8, 10, 12, \dots 104 \\ 8, 15, 24, \dots 2600 \\ 12, 19, 28, \dots 2604 \end{array} \right\}$; etc., etc.

Diagonals

Thus it will be seen the limit of the number of the solids will be in

Series (1),	100,	Series (6),	11,
" (2),	49	" (7),	8,
" (3),	31	" (8),	5,
" (4),	22,	" (9),	3,
" (5),	16,	" (10),	1.

Making in all 246. *Answer.*

PROBLEM 3.

Find the sum S_r of the volumes of the first r rational rectangular solids in the series of such that have each two equal dimensions.

SOLUTION.

The first or least found in each of the series (1), (2), (3), (4), . . . or (r), have two dimensions equal in each. Hence by putting $n=1$ in formulæ (a), (b), (c), (d), . . . and (r), we have as the series to sum,

$$1^2.2^2, 2^2.8^2, 3^2.18^2, 4^2.32^2, 5^2.50^2, 6^2.72^2, 7^2.98^2, \text{ etc., etc.}$$

The first terms in the several orders of differences obtained in this series are $D_1=252$, $D_2=2408$, $D_3=8400$, $D_4=13440$, $D_5=10080$, and $D_6=2880$. Hence by substituting these values in the differential formula together with $a=1^2.2^2$, as in the preceding solution, we obtain by reduction,

$$S_r = \frac{12r^7 + 42r^6 + 42r^5 - 14r^3 + 2r}{21}$$

$$\text{When } r=1, s_1=4,$$

$$\text{When } r=3, s_3=3176,$$

$$\text{" } r=2, s_2=260,$$

$$\text{" } r=4, s_4=19560,$$

$$\text{" } r=1000, s_{1000}=573430571427904762000.$$

ELEMENTS OF THE INFINITESIMAL CALCULUS. By Joseph Bayma, S. J., Professor of Mathematics in Santa Clara College, S. J., Santa Clara, California. San Francisco: A. Waldteufel, 737 Market Street. 8vo., cloth. pp. 289. Price, \$2.50.

This treatise is based on the principles of the infinitesimal method, as the most consistent and philosophical. Although some authors discredit this method, failing to grasp the true nature of infinitesimal quantities, the author shows what he believes to be the exact conception of the theory on which the calculus rests. The work is intended for young men who devote much time to the study of mental and natural philosophy. The design is to make it easy of comprehension. A sufficient number of mechanical and geometrical problems have been introduced which will serve as a good introduction to the fundamentals of these sciences. Part I is the differential, and Part II the integral calculus, each part divided into three sections. The work is gotten up in an attractive manner, good clear typography and thick durable paper. Supplied to the trade at the usual trade discount.

The Worship of Egypt.

BY A MEMBER OF THE "S. E. K."

The article of Mr. Coleman upon the "Veil of Isis," in the March No., 1892, of *NOTES AND QUERIES*, seems to us to fall into an error common to many students of ancient religions and early Egyptology, namely, the attempted identification of the Egyptian deities, after the fashion of Greek and Latin authors, with the divinities of Greece and Rome. We must remember that the Egyptian religion had endured for centuries before the Greeks and Romans came into contact with it: they also were foreigners, knowing little of the history or customs of the country, and, in most cases, with ut any knowledge whatever of the hieroglyphic language. For an accurate knowledge of the Egyptian religion we must go to the fountain head, the manuscripts and inscriptions which the priests of Egypt wrote.

Mr. Coleman states on the authority of Wilkinson, Bunsen, and "Herodotus" that Neith was a goddess of the first rank while Osiris and Isis were of the third. As a matter of fact, no worship in Egypt was so universal as that of Osiris and Ra. No Egyptologist would dream at the present day of putting Osiris and Isis in any class of deities but the first.

"Hail to thee, Osiris, Lord of Eternity! When thou art in the heavens thou appearest as the Sun, and thou renewest thy form as the Moon."—Mariette, "Dendara," iv, 44a.

Even Tiele, who does not rank high as an Egyptologist, says, "the worship of Osiris and that of Ra are the most ancient religions mentioned on the oldest monuments. They are those which in after times prevailed most generally, and may be said to have formed the foundation of the national religion (Tiele, "History of Egyptian Religion," page 37). So too Renouf, Birch, Rawlinson, and others. (See Renouf, "Lectures on Egyptian Religion," Birch's edition of Wilkinson's "Manners and Customs of the Ancient Egyptians," and Rawlinson's "Egypt.")

Secondly, Neith is said to have been a virgin, and that "it is her virginity and not inscrutability which is emphasized in the inscription."

The great Magical text, Papyrus No. 825, British Museum, speaks

of Neith thus : " I am the seat of Neith, hidden in the hidden, concealed in the concealed, shut up in the shut up, *unknown I am knowledge* " (page 16 of great Magical text).

This would seem to indicate that Neith did sometimes symbolize deep and impenetrable knowledge.

Thirdly, it is the opinion of the students of esoteric Egyptian religion that Isis, Neith, etc., were the same ; so also Osiris, Ra, and the other Gods. Isis is said to be the wife, mother, sister, and daughter of Osiris, also the mother of Horus. Neith is said to be the mother of Ra. Ra, however, is identified with Osiris, and Horus is called the son of Ra (See translation by Chabas of Alexandrian Obelisk where Horus is repeatedly called "Son of the Sun," "Son of Ra," and he is even spoken of as the Son of Ptah). It is impossible that such a confusion should not have concealed truths intelligible to the educated and initiated Egyptians. Renouf says that all the Gods are divided into two great groups, Ra and his family in his aspects Mentu and Tmu, and Osiris and his family ; that texts are discovered which identify Osiris and Ra, while finally both disappear, except as names, and the Unity is asserted. He also says that the inscriptions at the temple of Dendara identify Hathor with Isis and with Seshet at Memphis. Neith at Sais, Nehemaut at Hermopolis, Bast at Bubastis, Saosis at Heliopolis, and Sothis at Elephantine.

In the manuscript of the "Lamentation of Isis and Nephthys" (Royal Museum of Berlin, No. 1425), we find Isis saying :

"Thoth places thy soul in the bark Ma-at in that name which is thine of the God Moon * * * * Thou hast taken possession of the heavens. Thou doest illuminate us like Ra each day. Thou shinest upon us like Atum. Men and Gods live because they behold thee. Thou sheddest thy rays upon us. Thou givest light to the two worlds. I am the *divine Sothis behind him, I do not separate myself from him.*"

In the same "Lamentations" also Nephthys, speaking to Osiris, invokes him say thus : "Oh God An come to *Sais. Sais is thy name.* Come to Aper ; thou wilt see thy mother Neith. * * * *Lord of Sais. Come to Sais.*"

So too in the "Book of Respirations," according to De Horrack, generally buried with the priests of *Ammon Ra*, Isis addresses Osiris as "her brother," "the Divine Father," "King of the Gods," and says, "thy soul is the soul of Ra."

Thus we see that Isis and Osiris were most prominent types of the Egyptian belief and that Neith and Isis were identical, as were also Osiris and Ra. All types of the same great truths, known to the initiates, and of the mysteries typified through the ages by the "Veil of Isis."

In conclusion let me quote from the noblest work of all, which truly breathes the spirit of the highest Egyptian faith, the Litany of Ra.

"Hail Ra, the Royal Osiris is Nun! Hail Ra, the Royal Osiris is thyself and reciprocally. Hail Ra, thy spirit is that of Osiris (Litany chapter I, section 77). Hail Ra! The *birth* of Osiris in the heavens is the *birth* of the *soul* of Ra in the heavens—the *life* of Osiris is the *life* of Ra. (Litany, chapter IV, found in the tomb of Seti I).

QUOTATIONS IN THE NEW TESTAMENT. There are four quotations in the New Testament which I have searched for, as to authorship, a long time. I note some of them referred to occasionally in NOTES AND QUERIES. I send them that I may possibly receive further light.

LEON K. SMITH.

1. "All that ever came before me are thieves and robbers."—*Jesus*. JOHN X, 8

2. "In my Father's house are many mansions."—*Jesus*. JOHN XIV, 2.

3. "And I, if I be lifted up from the earth, will draw all men unto me."—*Jesus*. JOHN XII, 32.

4. "He must increase, but I must decrease." — *John the Baptist*. JOHN III, 30.

1. In the *Introduction* to Richard Laurence's translation of the Book of Enoch from an Ethiopic manuscript in the Bodleian Library, the editor, author of "Evolution of Christianity," remarks as follows:

"In revising the proof sheets of the Book of Enoch, the parable of the sheep, rescued by the good Shepherd from hireling guardians and ferocious wolves, is obviously borrowed by the fourth Evangelist from Enoch, LXXXIX, in which the author depicts the shepherds as killing the sheep before the Advent of their Lord, and thus discloses the true meaning of that hitherto mysterious passage in the Johannine parable: 'All that ever came before me are thieves and robbers, language in which we now detect an obvious reference to the allegorical shepherds of Enoch.'"

3. The authorship of this is said to be Zoroaster. (See NOTES AND QUERIES, Vol. VI, p. 278.)

4. The authorship of this is also wanted by "BENOTH." (See N. & Q., Vol. VIII, 258.)

The Euclid University Pi Value of the Circle,

STRANDED BETWEEN TWO PYTHAGOREAN PROPOSITIONS.

By Samuel C. Goodsell, Westville, Conn.

Having been requested to write up for publication a few thoughts, from a practical standpoint, in reference to that peculiarly mysterious mathematical value known as the Euclid, Legendre *pi* value of the circle, which has the pledged endorsement of the universities of christianity. I herewith respectfully submit to such as may be interested in matters of this nature, the few following thoughts. I find to be true, that the series 3.141592, etc., is not that series of figures which correctly represents the relation of the circumference of a circle to its own diameter, and for this reason. When we print two equations that have reference to two adjacent regular polygons, based upon the very purest of the Pythagorean laws of perimetry, we find it to be true, that the series 3.141592, falls between the ratios by which the perimeters of these two polygons are related to the diameters of their inherent circumscribing circles,—hence it is an easy matter to show up the fallacy of, and destroy that superstition, which focuses on the university *pi* value, by simply placing this absurdity in its native home in the polygon family. We will now print the two equations.

$$\frac{n^2}{9\frac{1431}{1646}} - \frac{n^2}{9\frac{1476}{1641}} = \left(\frac{n}{57}\right)^2 \text{ and } \frac{n^2}{9\frac{15117}{17383}} - \frac{n^2}{9\frac{3894}{4333}} = \left(\frac{n}{58}\right)^2.$$

In these equations, *n* means (number) perimeter, and the reading of the first equation should be,

$$\frac{\text{perimeter}^2}{\text{sine ratio}^2} - \frac{\text{perimeter}^2}{\text{tangent ratio}^2} = \left(\frac{\text{perimeter}}{57}\right)^2.$$

Which is to say that if any given line be made into the perfect perimeter of a 57 equal-sided polygon that line must be acted upon by two such numerical values as will give us this result. The square of diameter of inscribed circle plus the square of one of its sides is equal to square of diameter of its circumscribing circle, and when numerical values have been found, which will produce this effect, we have the

sanction of Pythagoras, that we are in harmony with both perfect law, and perfect order. In the numbers below the line, in these two equations, we have given the infinitely perfect Pythagorean numbers, which are the square of sine ratio, and square of tangent ratio of the regular polygon of 57 equal sides, and also the square of sine ratio, and square of tangent ratio of 58 equal sides in a like perfect manner. Now since it is true that the sine ratio of one of these polygons is greater than 3.141592, and also true that the sine ratio of the other polygon is less than 3.141592 therefore if any figure whatever be so constructed that its whole perimeter to its own diameter is, as 3.141592 : 1; that figure will have more than 57 equal sides, but less than 58 equal sides. When we reflect that the sines and tangents, of commerce, both natural and artificial, are based upon such wretchedness, as these two equations make manifest, the high science world should blush with shame.

"IN THE BEGINNING WAS THE WORD (LOGOS)." Vol. VIII, p. 369; IX, p. 25.) Justin Martyr says, "Plato's words respecting 'The Son of the God : He placed him crosswise in the form of X in the universe, were borrowed from Moses" (?)—JUSTIN, *Apology*, II, p. 92. PLATO, *Timæus*, 36.

KLÆK-KLÆK. In a notice of "The Lost Manuscript," published by *The Open Court Publishing Co.*, Chicago, Ill., appears the following : "The descriptions of emotion, and especially of out-of-door nature, are well nigh perfect. They are like Klæk-klæk's landscapes."—*Am. Bookseller*, Feb. 1 & 15, 1892.

Who or what is "Klæk-klæk's landscapes" ? THOS. CLOWES.

ERRATA. On page 64 (March No., 1892), 10th line from bottom, for "*B S V*" read $> B S A$. And on page 65 for " $\frac{1}{2}(\pi - x)$ " read $\frac{1}{2}(\frac{1}{2}\pi - x)$.

ERRATA.—ARCANE DISCIPLINE. (Vol. IX, p. 34.) There are some printer's errors in my note which makes it look incomprehensible. For "liberal-minded" (twice repeated) read literal-minded. (Origen means the uneducated, exoteric.) For "Cherubim and Seraphim Mason" read Gnostic and Serapian Mason. (My meaning is that there was an Egyptian Serapian ceremony which developed into the mystery of the passion of Jesus.) For "Massey's New Lectures" read Massey's Ten Lectures.

JOHN YARKER.

ARBOR DAYS IN THE UNITED STATES. The following is the arrangement in the several States for Arbor Days as published in the *New England Journal of Education* :

- Alabama, and Texas, February.
- Colorado, third Friday in April.
- Connecticut, last Friday in April, appointed by the Governor.
- Florida, January 8, appointed by the Governor.
- Illinois, Michigan, New Hampshire, New Jersey, spring, appointed by the Governor.
- Indiana, April and November, by custom and not law.
- Iowa, late in April or early in May.
- Kansas, April, appointed by the Governor.
- Kentucky, Maryland, Nevada, Ohio, Rhode Island, Vermont, Wisconsin, appointed by the Governor.
- Massachusetts, last Saturday in April.
- Minnesota, usually in April, appointed by the Governor.
- Missouri, first Friday after first Wednesday in April.
- Nebraska, April 22.
- New York, Friday following first day in May.
- Oregon, second Friday in April.
- Pennsylvania, one day in April, appointed by the Governor ; one day in October, appointed by superintendent of public instruction.
- Tennessee, appointed by county superintendents.
- West Virginia, usually first Friday in November.

"CECROPIA'S PILLARED STATE." (Vol. I, p. 221 ; VIII, p. 420.) The poem, commencing, "Heard ye those loud contending waves," has been twice asked for as to authorship. We have made considerable search for the author's name and thus found it credited in one work to *Cary*, and in another work to *Carey* ; but we do not have the published poems of any of the Cary poets, or Carey-poets, for there were poets by both spelled names. Allibone's "Dictionary" mentions several. Can some reader inform us if any of the following poets wrote the poem whose authorship is wanted :

Henry Cary, "Poems on several occasions," 1729. Henry Francis Gary (1772-1844), "Ode on Kosciusko," translations of Dante, Pindar, Aristophanes, etc.

Alice and Phebe Carey, sister poets. David Carey, George Saville Carey, Thomas Carey, Patrick Carey, all wrote and published poems.

Grand Lodges, Knights of Honor, Mottoes.

States.	Organized.	Mottoes.
Alabama,	Nov. 26, 1877,	<i>Esse quam videri.</i>
Arkansas,	Nov. 13, 1877,	MERCY. <i>Regnant populi.</i>
California,	Mar. 24, 1880,	<i>Eureka.</i>
Colorado,	Nov. 2, 1881,	[No motto.]
Connecticut,	Aug. 24, 1877,	[No motto.]
Dist. of Columbia,	Oct. 22, 1880,	[No motto.]
Florida,	Dec. 16, 1881,	<i>Canafides.</i>
Georgia,	May 2, 1876,	[No motto.]
Illinois,	Sept. 25, 1877,	[No motto.]
Indiana,	Nov. 25, 1875,	[No motto.]
Iowa,	Mar. 6, 1878,	{ <i>Our liberties we prize, and our rights we will maintain.</i>
Kansas,	Sept. 28, 1877,	{ <i>Thus we obey the Scriptures.</i>
Kentucky,	July 1, 1875,	JAMES I, 27.
Louisiana,	Sept. 15, 1881,	[No motto.]
Maine,	Dec. 19, 1876,	<i>Prudens futuri.</i>
Maryland,	Sept. 5, 1877,	[No motto.]
Massachusetts,	Mar. 1, 1876,	<i>Fatti maschii parole femine.</i>
Michigan,	June 30, 1876,	<i>In God we trust.</i>
Minnesota,	Mar. 12, 1878,	[No motto.]
Mississippi,	Nov. 22, 1877,	<i>L'étoile du nord.</i>
Missouri,	Sept. 10, 1875,	[No motto.]
Nebraska,	April 3, 1878,	<i>United we stand, divided we fall.</i>
New Hampshire,	May 4, 1876,	<i>Fiat lux.</i>
New Jersey,	April 16, 1877,	<i>Justice has no equal.</i>
New York,	Dec. 2, 1875,	[No motto.]
North Carolina,	April 18, 1877,	<i>Excelsior.</i>
Ohio,	June 29, 1875,	{ <i>Spectemur agendo.</i>
Pennsylvania,	June 29, 1875,	{ <i>We have provided for you.</i>
Rhode Island,	Mar. 29, 1877,	<i>Functa juvant.</i>
South Carolina,	April 20, 1877,	<i>Semper fidelis.</i>
Tennessee,	July 3, 1877,	{ <i>Nothing is beautiful but the truth.</i>
Texas,	Nov. 16, 1877,	<i>Hope.</i>
Vermont,	April 20, 1878,	<i>Invicem tuemur.</i>
Virginia,	April 17, 1877,	<i>Esto quod esse videris.</i>
West Virginia,	Jan. 9, 1878,	[No motto.]
Wisconsin,	Feb. 22, 1877,	<i>Freedom, Unity, and Vermont.</i>
		[No motto.]
		[No motto.]

QUESTIONS.

“Undoubtedly we have no questions to ask which are unanswerable.”—*Ralph Waldo Emerson.*

1. What is the name of the figure of rhetoric which is applied to the following two quotations : X.

a. “ Sweet harmonist ! and beautiful as sweet !
And yonng as beautiful ! and soft as young !
And gay as soft ! and innocent as gay !
And happy (if aught happy here) as good ! ”
—*Night Thoughts*, III, 81-84.

b. “ Add to your faith, virtue ; and to virtue, knowledge ; and to knowledge, temperance ; and to temperance, patience ; and to patience, godliness ; and to godliness, brotherly kindness ; and to brotherly kindness, charity.”—II PETER I, 5-7.

2. George R. Gliddon states that the great Latronne calls Dr. Lepsius “ the hope of Egyptian study.” Why is he thus denominated ?
ANGLO-ISRAEL.

3. Who were the publishers of the two books entitled “ The Undiscovered Country,” and “ Oceanides,” both by Carlyle Petersilea ?
C. G. D.

4. In the Ancient and Accepted Scottish Rite of Masonry the ninth and tenth degrees are denominated “ Master Elect of Nine,” and “ Illustrious Elect of Fifteen.” What are the exoteric historical foundations for the numeric names ?
BLUE MEMBER.

5. What is the significance of the legal maxim, “ In the law there is no time antecedent or ulterior.”
JONATHAN.

6. Who was “ Nemesis,” and what is the modern application of the name to books, etc. ?
AMANDA.

7. Can some reader furnish a record or the several works in order of their publication, entitled “ Ecce Homo,” “ Ecce Deus,” “ Ecce Femina,” “ Ecce Diabola,” etc. ?
READER.

8. I recently saw the word *Nephelococcygia*, and do not readily find the word in a lexicon. What does it mean, and what language is it ?
T. T.

9. What is the “ Thorn of Winter,” mentioned in the works of William Dwight Whitney ?
C. K. K.

10. Who was the person that said that his religion was in his own question, and answered by himself : “ What do I see in Nature ? God—God everywhere, God alone.”
RHODA.

MISCELLANEOUS

NOTES AND QUERIES,

WITH ANSWERS.

"In the beginning there arose the Source of Golden Light."—THE VEDAS.

VOL. IX.

JUNE, 1892.

No. 6.

A New Candidate.

BY BARBARA STANWISE.

Are we to have no national flower? Shall the republic that has accomplished so much in letters and in arms, and outstripped the oldest countries of the globe in government and inventions, tamely yield to the slight difficulties in the way of selecting a floral emblem, and thus fall behind the other Great Powers in this matter? No, let us show our color in flower as well as flag.

A rose is said to have miraculously appeared in the midst of King Arthur's Round Table as his knights sat feasting, and was from that hour accepted as England's flower.

To an aged hermit an angel appears as a flame of light, bearing an azure shield upon which are emblazoned three golden lilies. At the celestial visitor's command, the hermit presents the shield to Queen Clothilde, whose husband makes it his device in place of the three toads hitherto used. By it Clovis is led to victory, and henceforth the fleur-de lis is the emblem of France.

But though we crown the story of the ages as a "miracle of history," no special wonder has been wrought to furnish us a national flower.

A Scottish legend runs as follows: Once when the Danish invaders had surprised the Scots and were on the eve of victory, one of the bare-footed intruders trod upon a thistle, and his cry of pain gave the

alarm, so that the Scots flew to arms and defeated the Danes. In gratitude to the rough plant, they raised it to the highest place in the people's hearts.

Who does not know that the trefoil of Ireland was used by St. Patrick as an illustration when trying to teach the islanders the doctrine of the Trinity? and as it proved convincing, the "Trinity flower" became their symbol. Likewise the leek of Wales, and most probably the pomegranate of Spain, mignonette of Saxony, violet of Athens, and many others are mingled with the romance of ancient fable. But for us there is no tissue of *falsehood* as the groundwork of our history, no background of olden story as capital upon which to draw. And yet we are not *wholly* destitute of legendary lore, thanks (?) be to that far-sighted seer who, looking back through two centuries, perceived our cherished Pocahontas story a myth! and that keener vision still that saw in the landing of the Northmen only a "*pretty legend*"! These and a very few others form a stock so meagre that they but serve to emphasize the general truthfulness of our history; and not one among them furnishes the least help towards our object, unless it may be the hackneyed story of the "hatchet and the cherry tree." But even this one suffers at the hand of some unimaginative Yankee, who puts the knife to it, and by the process of his keen dissection eliminates the cherry tree from the "legend," leaving us to supply its place with any other we may choose.

Our nearest neighbor on the north has for its emblem the sugar maple, and although the lowly herbs that have been suggested for our national flower are very beautiful and we love them all, it seems to me nothing fully meets the case, short of some lordly tree, upon which scions can be grafted, in whose branches the birds may find shelter and rear their young, under whose shade our nation of laborers may take their noontide rest, whose wood may serve in our great industries, whose buds and blossoms may thrill with rapture our aesthetic nature, and whose fruit may furnish nourishment for man and beast.

Now have we not in the common apple tree one that answers all the conditions I have named, and does it not at every stage of growth typify our nation's history? Its rugged bark, gnarled trunk and branches! how like our struggling forefathers in the fight to keep their foothold against opposing elements. In the grafting of scions

how suggestive of the many twigs, that taken from other varieties of the genus home, have become a part of our national life. And in the "flush of fragrant, roseate bloom," how like the beauty and the widespread influence of our great Columbia in this nineteenth century. "Peace in our borders, and prosperity within our walls," almost every home becomes an exponent of its owner's artistic taste, until they seem indeed an exquisite blossom upon the great national tree.

Is not the apple blossom every whit the peer of the rose itself in loveliness? Is it not widespread as any flower that blooms within our borders, and as welcome by the cot of the invalid, or for decorations in the gala hour?

Besides all else, it carries within its heart the promise of greater things to come, even the fruitage that gladdens the festive board and enlivens the long winter evenings, furnishing an inexpensive luxury to bless both rich and poor — "the most perfect realization of a fruit," says an English lecturer on botany.

Our hearts kindle as we picture this tree in its exquisite drapery of May bloom, and again in its crimson glory in the soft sunshine of a September afternoon. Is there a tree in all the land so dear, associated as it is with our childish delight and youthful romances? How light and happy were our hearts as we bounded forth to school with a bunch of its blossoms at our breast or in our hand, or as we stood amid the orchard bloom in some never-to-be-forgotten moment, when a dear hand stretched up to pluck for us the blossoms just beyond our reach. Or, in the winter evening, how carefully we pared the ripened fruit, that we might use it for a charm. Swinging it three times around our head and dropping it we could nearly always translate its curves into the desired initial. Even to the very seeds extended the wondrous magic; for, naming them, how merrily we counted, "One I love, two I love," etc., up to "twelve he marries."

Even the language, "Preference, fame speaks him great and good," conveys a hint concerning that of which (after all that's said and done) we are so justly proud; namely, that our land is the chosen sanctuary of the down-trodden and oppressed.

Then surely if the apple tree from first to last means so much to us, may we not lift it up as our Ensign, and vote for its fair blossom as our *National Flower*?

H A M L E T .

BY BELL CACTUS.

HAMLET.—What is he, whose grief,
Bears such an emphasis ? whose phrase of sorrow
Conjures the wandering stars, and makes them stand
Like wonder-wounded hearers ? This is I,
Hamlet the Dane.

If the question were asked, which of Shakespeare's plays was considered the finest, one might mention the histories ; another might see the most merit in the tragedies. Those of a lighter nature might receive their greatest pleasure from some one of the comedies.

The maxim, "many men of many minds" is a universal truth.

The original story on which the tragedy of Hamlet is founded you can find in the Saxo Gramaticus, the Danish histories. It was there worked into form of a novel by Belleforest, in seven volumes. Shakespeare revised, amplified and altered the play, and made variations in the plot. The character of Hamlet has often been discussed, and a variety of contradictory opinions expressed.

It was Goethe's idea that Shakespeare intended to depict the effect of a great action on a mind not strong enough to accomplish it. But Dr. Ferrear has termed the state of mind which Shakespeare exhibits to us in Hamlet, as the effect of conflicting passions and events operating on a mind of acute sensibility.

Mr. W. Farren, a comedian of talent, in an article in the *London Magazine*, wrote at large on the madness of Hamlet, endeavoring to show that the poet meant to represent him as insane.

But we are in full accord with Mr. Boswell's ideas, who fully combats the supposition of madness. He thinks the sentiments that fell from Hamlet in his soliloquies, and in his confidential talks with Horatio, evince not only a sound but a vigorous understanding.

The uncertainty about his noble father's death, the unreasonable haste of the queen's marriage with his uncle Claudius, a man of a most unkingly character, nearly overwhelmed him. He exclaims, "How stale, flat and unprofitable are all the uses of this world." When Horatio communicates the fact of his having seen the ghost, and it was like his father, Hamlet says, "Foul deeds will rise though all the earth overwhelms them to men's eyes."

The ghost seen in the first act between Marcellus Bernardo and Horatio, where he makes them swear. "How strange or odd soe'er I bear myself. As I perchance, hereafter shall think meet. To put an antic disposition on, that they would never divulge aught of what they know, is not madness."

We see nothing incompatible with his belief in the ghost of his father appearing, and that it was his duty to revenge this foul and most unnatural murder, for in Shakespeare's day all believed in the supernatural; and did not this belief hold to a late date in the history of the world?

While the queen understood not the occult sciences, she tells Hamlet that it is the "coinage of his brain." He says, my pulse as yours doth temperately keep time, and makes as healthful music. But that he is mad in craft. And as Horatio said of the clown, "custom hath made it in him a property of easiness."

Hamlet bethinks himself of the play. He says, "The play's the thing wherein to catch the conscience of the king." We must think with Polonius, "If this be madness, there's method in it." Skillfully and subtly he manages this play, of a murder done in Vienna, by Lucianus on the duke Gonzago, poisoning him in his garden, to get his estate and the love of his wife. It is written in choice Italian. For, said Hamlet, I have heard that guilty creatures sitting at a play, have by the cunning of the scene, been struck so to a soul. That presently they have proclaimed their malefactions. "I'll have these players play something like the murder of my father, before mine uncle; I'll observe his looks. If he do blench, I know my course."

His wise advice to the players will hold good for all time.

Where he says, "Do not saw the air with your hands, thus; but use all gently; for in the very torrent, tempest and (as I may say) whirlwind of your passion, you must acquire and beget a temperance, that gives it smoothness. Suit the action to the word, the word to the action; hold the mirror up to nature; to show virtue her own features; scorn, her own image."

When the king asks Hamlet where Polonius is, he answers, "At supper. Not where he eats, but where he is eaten; a certain convocation of politic worms are e'en at him. Your worm is your only emperor for diet, we fat all creatures else, to fat us; your fat king and

your lean beggar, is but variable service, two dishes, but to one table ; that's the end."

This and the colloquy with the grave diggers show Hamlet to have had a most reflective and analytical mind.

His conduct to Ophelia is in keeping with the notions he would convey of his pretended insanity. It must take a strong mind to treat a loved object with such harshness, for a mistaken idea of honor, that he could not explain to her. Yet in the trying circumstances in which he was placed, there was no alternative. In his relations to Ophelia, there seems to be evidence of a mind unsettled, and we see the scattered fragments of a bright imagination, crushed and broken by calamity.

All the situations are marked with a master hand in this play.

Hamlet, in his soliloquies, is made to rise to sublime heights, and utters truths few men have any conceptions of, or would be able to put into language.

This is to us, in many ways, unquestionably the grandest of Shakespeare's plays.

EARLY WORKS ON ARITHMETIC. In the year 1537, there was printed at St. Albans :

"An Introduction for to lerne to reckon with the Pen and with the Counters after the true cast of Arsmetyke, or Awgrym, in hole numbers, and also in broken."

In 1542, there was printed by Roberte Recorde, Doctor of Physic, the first edition of a work entitled :

"The Grounde of Artes, teaching the Woorkes and Practice of Arithmetyke, booth in whole numbers and fractions, after a more easy and exacte sorte, than any hitherto hath been set forth."

As another example, we will mention the following work, the contents of which, as might be expected are quite worthy of the title :

"The Secrets of Numbers according to Theological, Arithmetical, Geometrical, and Harmonical computation. Drawn, for the better part, out of those Antients, as well as Neoteriques. Pleasing to read, profitable to understande, opening themselves to the capacities of both learned and unlearned ; being no other than a key to lead men to any doctrinal knowledge whatsoever. By William Ingpen, Gent., London, 1624."

The first chapter is entitled "The excellencie of numbers : and how far they stretch towards the attaining of all manner of sciences."

WHEEL OF ORFFYREUS. (Vol. II, p. 414, 489.) The "Wheel of Orffyreus, in mechanics, is a machine so called from its inventor, Hans Ernst Elias Bessler, which he claimed to be a perpetual motion. This machine, according to the account given of it by Prof. William James s'Gravesande, in his "*Oeuvres Philosophiques*," published by Allamand, Amsterdam, 1774, consisted of a large circular wheel, or rather drum, 12 feet in diameter, and 14 inches in depth, and very light; as it was formed of an assemblage of deals, the intervals of which are covered with waxed cloth, in order to conceal the interior parts of it. The two extremities of an iron axle, on which it turned, rested on two supports. On giving the wheel a slight impulse in either direction, its motion was gradually accelerated; so that after two or three revolutions it acquired so great a velocity as to make 25 or 26 turns in a minute. This rapid motion it actually preserved for the space of two months in the chamber of the Landgrave of Hesse, the door of which was kept locked, and sealed with the Landgrave's own seal. At the end of that time it was stopped to prevent the wear of the materials. The professor, who had been an eye-witness to these circumstances, examined all the external parts of it, and was convinced that there could not be any communication between it and any neighboring room. Orffyreus, however, was so incensed that he broke the machine in pieces, and wrote on the wall, that it was the impertinent curiosity of Prof. s'Gravesande which made him take this step. The prince of Hesse, who had seen the interior part of this wheel, being asked by Prof. s'Gravesande, whether, after it had been in motion some time, there was any change observable in it, and whether it contained any pieces that indicated fraud, or deception, and which he answered both questions in the negative, and declared that the machine was of a very simple construction. The further description of this piece of mechanism is found in Henry Dircks' "*Perpetuum Mobile, or, Search for Self-Motive Power*," pp. 35-54. London, 1861.

DEVIL'S LAKE, MISSOURI. Few people outside of the Ozark wilderness in southwestern Missouri, have ever heard of Devil's Lake, one of the strangest of natural phenomena. A traveller thus describes it:

Fancy a lake perched on the top of a mountain, its surface from 50 to 100 feet below the level of the earth surrounding it, fed by no surface streams, untouched by the wind, dead as the sea of Sodom. There is no point of equal altitude from which water could flow within hundreds of miles, and yet it has a periodical rise of thirty feet or over, which is in no way effected by the atmospheric conditions in the country adjacent. It may rain for weeks in Webster county, and the return of fair weather will find Devil's Lake at its lowest point, while it may reach its highest point during a protracted drought.

Mr. John Lee, who lives within a mile or two of the lake, says that

a sounding of 100 feet has failed to reach bottom. Owing to the steepness of the sides of the basin in which the water lies, it is difficult to measure the depth. He believes that the lake is fed by a subterranean stream, and that the water so supplied flows out by a passage many hundreds of feet below the lake's surface.

A Mr. Crabbe, who has lived in the neighborhood for years, says that he knows when the rise is coming by reports in the papers of the upper Missouri river town in Montana. His theory is that the Lake is a part of an underground river, whose entrance is larger than its exit, and the source of which is somewhere in the extreme northwest.

Devil's Lake is 1500 feet above the level of the sea. It is situated a few miles north of Fordland, on the Kansas City, Fort Scott, and Memphis Railroad.

COW'S-FOOT-IN-THE-MILK CURVE. (Vol. VIII, p. 273.) The curve asked for by "Q" is called a *caustic*. It is a well known property of light that its rays impinging upon a reflecting surface are thrown off so as to make the angle between the reflected ray and the normal, equal to that between the incident ray and the normal. In consequence of this law, when the rays of the sun, which are practically parallel, are reflected from a curved surface, the intersections of the consecutive reflected rays produce a luminous curve, called a *caustic*, which is an example of the envelope. This curve may be seen on a table in the light. It is familiar to the milkman, as the "cow's foot in the milk," which is the caustic formed upon the smooth surface of the milk in a bright tin pail, by the reflection of the light from the inside of the pail.

BIG TREES IN CONNECTICUT. There is a giant chestnut tree in Mansfield, Conn., whose circumference at the roots is 54 feet, and the diameter of the spread of its branches in one direction is 100 feet. Its height is 80 feet.

The McClellan elms in South Woodstock, Conn., were planted June 17, 1775, by the grandmother of the distinguished generals of that name. There are also elms in the town in the shade of which Washington is said to have rested when on his way to assume command of the Revolutionary army in Boston.

In Hebron, Conn, is still standing an apple tree that was planted 125 years ago by Elihu Marvin. The fruit from it, on account of the flavor and quality, was named "Seek no Further," giving origin to a distinct product in the State. For at least 100 years this has been a favorite apple in Connecticut.

Was there a Continent Atlantis?

What are some of the main arguments upon which the continent of Atlantis is believed to have existed ?

BURTON SMITH.

This question is best answered by copying the thirteen propositions which Ignatius Donnelly formulated, and stand at the commencement of his book, "*Atlantis, the Antediluvian World*," New York, 1882.

1. That there once existed in the Atlantic Ocean, opposite the mouth of the Mediterranean Sea, a large island, which was the remnant of an Atlantic continent, and known to the ancient world as the Atlantis.

2. That the description of this island, given by Plato, is not, as has been long supposed, fable, but veritable history.

3. That Atlantis was the region where man first rose, from a state of barbarism to civilization.

4. That it became, in the course of ages, a populous and mighty nation, from whose overflowings the shores of the Gulf of Mexico, the Mississippi River, the Amazon, along the Pacific coast of South America, the Mediterranean, the west coast of Europe and Africa, the Baltic, the Black Sea, and the Caspian, were populated by civilized nations.

5. That it was the true antediluvian world ; the Garden of Eden ; the Gardens of the Hesperides ; the Elisian Fields ; the Gardens of Alcinous ; the Mesomphalos ; the Olympus ; the Asgard of the traditions of the ancient nations ; representing the universal memory of a great land, where early mankind dwelt ages in peace and happiness.

6. That the gods and goddesses of the ancient Greeks, the Phœnicians, the Hindoos, and the Scandinavians were simply the kings, queens, and heroes of Atlantis ; and the acts attributed to them in mythology are a confused recollection of real historical events.

7. That the mythology of Egypt and Peru represented the original religion of Atlantis, which was sun worship.

8. That the oldest colony formed by the Atlanteans was probably in Egypt, whose civilisation was a reproduction of that of the island of Atlantis.

9. That the implements of the "Bronze Age" of Europe were derived from Atlantis. The Atlanteans were also the first manufacturers of iron.

10. That the Phœnician alphabet, parent of all the European

alphabets, was derived from an Atlantis alphabet, which was also conveyed from Atlantis to the Mayas of Central America.

11. That Atlantis was the original seat of the Aryan or Indo-European family of nations, as well as of the Semitic peoples, and possibly also of the Turanian races.

12. That Atlantis perished in a terrible convulsion of nature, in which the whole island sunk into the ocean, with nearly all its inhabitants.

13. That a few persons escaped in ships and on rafts, and carried to the nations east and west the tidings of the appalling catastrophe, which has survived to our own time in the Flood and Deluge legends of the different nations of the old and new worlds.

Asteroids.

Continued from NOTES AND QUERIES, Vol. VIII, p. 419.

No.	Name.	Discovered.	Discoverer.
299.	Thora,	Oct. 8,	Palisa ₇₄ .
300.	Geraldine,	Sept. 9,	Charlois ₁₄ .
301.	Bavaria,	Nov. 16,	Palisa ₇₅ .
302.	Clarissa,	Nov. 14,	Charlois ₁₅ .
303.		Feb. 12, 1891,	Millosevich ₁ .
304.	Olga,	Feb. 14,	Palisa ₇₆ .
305.	Gordonia.	Feb. 16,	Charlois ₁₇ .
306.	Unitas,	March 1,	Millosevich ₂ .
307.	Nike,	March 5,	Charlois ₁₈ .
308.		March 31,	Borrelly ₁₆ .
309.	Fraternitar,	April 6,	Palisa ₇₇ .
310.		April 8,	Palisa ₇₈ .
311.		June 11,	Charlois ₁₉ .
312.		Aug. 28,	Charlois ₂₀ .
313.	Chaldea,	Aug. 30,	Palisa ₇₉ .
314.		Sept. 1,	Charlois ₂₁ .
315.	Constantia.	Sept. 4,	Palisa ₈₀ .
316.		Sept. 8,	Charlois ₂₂ .
317.		Sept. 9,	Charlois ₂₃ .
318.		Sept. 24,	Charlois ₂₄ .
319.		Oct. 8,	Charlois ₂₄ .
320.		Oct. 11,	Palisa ₈₁ .
321.		Oct. 15,	Palisa ₈₂ .
322.		Nov. 25,	Borrelly ₁₇ .
323.		Dec. 22,	Wolf ₁ .
324.		Jan. 20, 1892,	Wolf ₂ .
325.		Feb. 25,	Palisa ₈₃ .
326.		March 18,	Wolf ₃ .
327.		March 19,	Palisa ₈₄ .
328.		March 22,	Charlois ₂₅ .

THE SEPTENARY.—A MATHEMATICAL DEMONSTRATION. Mathematicians tell us that even before the formula for the Binomial Theorem was known, the early writers on algebra had declared that the total number of ways of taking n things was $2^n - 1$, or, in other words, the combination of n things taken 1 at a time, 2 at a time, 3 at a time, and so on. The proof is a simple example of mathematical induction, and it is easy to show empirically that if 1 be added to the total number of ways of taking n things, the result is invariably 2^n . Thus, if we take the two letters a, b, c , and form all the possible selections and prefix 1, we have : a, b, c, ab, ac, bc, abc . Here the total number of symbols is 8, that is 2^3 . And $2^0 - 1 = 7$. Thus we see that the sum total of the possible combinations of the three Hypostases, or Arasthās, that are found in every religion, the Christian Trinity, the Hindu Trimūti, and the Triads of the other great religions, taken singly, in pairs, and altogether, or synthetically, must in the nature of things be neither more nor less than 7.—*Lucifer*, Vol. X, 55.

THE DIAPASON. According to the Pythagorean system, the world is a piece of harmony, and man the full chord, which consists of a fundamental or full tonic, its major third, its just fifth, and its octave. It will then be seen that the diapason (*through all*) means the complete chord, or, according to another system, "a microsom of nature." Man touches Deity, passes through all the planets, and touches earth. It is because he touches Deity that he has an immortal soul, and it is because he runs through the planets that the planets influence his nature.

FIGURES—FINGERS. One explanation of "figures" is that it is a corruption of "fingers," the digits (Latin *digiti*). The primitive way of making the monads by the fingers. Thus the first four were simply i, ii, iii, iiii; 5 was the outline of the hand simplified into a v probably; the next four fingers may have been the two combined, thus, vi, vii, viii, viiii; and 10 was a double v, thus, x. At a later period, iiii, and viiii were expressed by one less than, (i-v) for 5, and one less than ten, (i-x) for 9. Nineteen was ten plus nine, (x + i-x); etc.

PRONUNCIATION OF "TALIAFERRO." (Vol. IX, p. 82.) In the answer to my question in the April No. of N. AND Q., you do not tell us how to pronounce "Taliaferro," the Christian name of Grand Representative Shaffner. And here I will ask, what is the pronunciation of the Christian name of that philosopher and mathematician, *Blaise Pascal* (1623-1662)? O. F.

In England the name *Taliaferro* is pronounced as if spelled *Tolliver*, and we presume the same pronunciation obtains in this country.

LILITH. (Vol. IX, p. 84.) S. Baring-Gould, in his work "Legends of the Patriarchs and Prophets," gives an account of Lilith (pp. 17 and 34) according to the Rabbinical tradition, quoting as authorities Eisenmenger II, p. 416, and the "History of Arabum," by Abraham Ecchellenus, p. 268.

KET.

"After his fall, Satan took to himself four wives, Lilith, and Naama the daughter of Lamech and sister of Tubal-cain, Igereth, and Machalath. Each became the mother of a great host of devils, and each rules with her host over a season of the year; and at the change of seasons there is a great gathering of devils about their mothers. Lilith is followed by 478 legions of devils, for that number is comprised within her name. According to some, Lilith is identical with Eve. Lilith rules over Damascus, Naama over Tyre, Igereth over Malta and Rhodes, and Machalath over Crete."—*Legends*, p. 17.

"That Lilith was Adam's second wife was a common rabbinical speculation; certain ones of the commentators on Genesis having adopted this view to account for the double account of the creation of woman in the sacred text, first in Gen. 1, 27, and second in Gen. II, 18. They say that Adam's first wife was named Lilith, but she was expelled from Eden, and after her expulsion Eve was created.

Abraham Ecchellensis gives the following account of Lilith and her doings: 'There are some who do not regard spectres as simply devils, but suppose them to be of a mixed nature, part demoniacal, part human, and to have had their origin from Lilith, Adam's first wife by Eblis, the prince of the devils. This has been transmitted to the Arabs from Jewish sources, by some converts of Mahomet from Cabbalism and Rabbinism, who have transferred the Jewish legends to the Arabs. They gave to Adam a wife, formed of clay, along with Adam, and called her Lilith; resting on the Scripture, *male and female created he them*: but when this woman, on account of her simultaneous creation with him, became proud and a vexation to her husband, God expelled her from Paradise, and then said: *It is not good for that the man should be alone; I will make him a help meet for him*. And this they confirm by the words of Adam when he saw the woman fashioned from his rib, *This now bone of my bone, and flesh of my flesh*, which is as much as to say, 'now God has given me a wife and companion, suitable to me, taken from my bone, and flesh, but the other wife he gave me was not of my bone, and flesh, and therefore was not a suitable companion and wife for me.'"—*Legends*, p. 34.

"But Lilith, after she was expelled from Paradise, is said to have married the devil, by whome she had children, who are called Jins. They were endued with six qualities, of which they share three with men, and three with devils."—*History of Arabum*, b. 268.

The word Lilith occurs once in the Hebrew Bible (Isaiah xxxvi, 14)

and translated "screech-owl," while the marginal reading is "night-monster." (See McClintock & Strong's "Cyclopædia," Vol. IX, p. 462.)

"Lilith: the Legend of the First Woman," by Ada Langworthy Collier, is a poem which tells the whole legendary history of this subject. Boston, 1885; pp. 104.

PARALLEL LINES (=) FOR EQUALITY. The origin of two parallel lines for equality has been attributed to "Roberte Recorde, Physicion." In his mathematical work, the "Whetsone of Witte" (sig. Ff. 1^b), published in 1557, he giving his reason for the use of parallels in the following quaint words:

"And to avoide the tedious repetition of these woordes, is equalle to, I will sette as I doe often in woorke use, a paire of paralleles, or Gemowe lines of one lengthe, thus: =, bicause noe 2 thynges can be more equalle."

Yet, for a long time afterwards, the continental mathematicians employed the symbol α , which some suppose was a rapid formation of the diphthong α , the initial of the phrase *æquale est*, "it is equal to."

FIVE—THE EVIL NUMBER. (Vol. IX, p. 24.) The number 5 was currently regarded as an evil number by the Egyptians because it was a disturbing element added to the perfect number 4. It was however not necessarily an evil number, but rather bore the power of good and evil. KET.

THE DIGAMMA. (Vol. IX, p. 24.) The digamma was a consonant sound in the oldest Greek. Hadley's "Greek Grammar," (p. 8, Section 23) says:

"The oldest Greek had another consonant sound represented by the sixth letter of the primitive alphabet. This was the semi-vowel Φ named (*Fau*) Vau, named also from its form Digamma (*digamma*) i. e. double gamma, one placed upon another. It corresponds in place and form to the Latin *f*, but in power to Latin *w* consonant (*r*) being sounded much like the English *w*." KET.

THE "FATHER OF CHRONOLOGY." (Vol. IX, p. 23.) This name was applied to Eratosthenes, keeper of the Alexandrian Library (*apud* 130 B. C.). He was the first person, in his "Chronographia, to use years, the natural division of time, instead of generations, as a method of computing dates and events. (See "Encyclopædia Britannica," Art. *Chronology*.) KET,

Ye Tragical Tale of Ye Ancient Hiram.

"Old Hiram Abiff"—so the histories run—
 Was a jolly old chap, a lone "Widow's Son."
 His father a Tyrian—and as to his mother,
 Genealogists make up a deuce of a bother,
 Some going for one and some for another.
 Some say he belonged to the Nathan clan,
 And some called her one of "the daughters of Dan."
 This Hiram he came to Jerusalem,
 And made that famed city his own happy home;
 He helped wise King Sol his temple to build,
 For in all works of brass he was mightily skilled.
 But alas! his sad fate we must now bewail,
 Come, all ye bright Masons, now list to my tale!
 This tragical tale, which they say is a true one,
 Is old, but the manner is wholly a new one;
 For Bill Drew—who's a writer of some reputation!
 Has told it before in a tedious narration.
 In a style of such melo-dramatic fullness,
 To which nobody listens, because of its dullness.
 At high twelve—his usual custom they say,
 Old Hiram went into the temple to pray.
 (A very remarkable event, by-the-way.)
 And while he was praying in his great hoarse mood,
 Three rascally, scoundrelly Fellow Crafts stood
 At the gates of the temple, on murder intent,
 And waited for Hiram, when outward he went.
 When Hiram had finished, he straightway arose,
 And most energetically blew his red nose;
 But when he arrived at the gate of the south,
 Then one of the ruffians opened his mouth,
 And asked him to give him the word and the grip,
 Saying, "Now, then, my Tyrian, I've thee on the hip."
 Says Hiram, "Mein Gott! was it dees dinge? Ha! Ha!
 Oh yaw! I furstay, and date you, J——a!"
 "Dry up, you Dutchman!" then the villain said:
 "Give me them secrets, or I'll punch your head!"
 "Have patience, J——a," Old Hiram replied,
 "Wait till the cruel war is over, and you'll be satisfied."
 "Talk not to me of patience! Again, I charge thee, stay!
 And give me them ere secrets, or you I'll surely slay!"
 But Hiram was steadfast, and bold as a lion,
 And told him his dodge it was no use to try on;
 So J——a was wrathful, and boiling with rage,
 And immediately picked up his two-foot gauge,
 And with it hit Hiram right over the crocker,
 And knocked him almost stiff as a poker.
 To the west with a flash did Old Hiram then flee,
 Thus changing his base with a flank march, do you see?
 A critical movement in tactics we know;
 For there stood the other fellow called J——o,
 The villain tried hard to pump our Grand Master,
 Yet Hiram had stuck to his purpose the faster.
 And finding his solicitations no go,
 The scoundrel hit him a thundering blow
 Upon his left breast with a wrought-iron square,
 Not the square thing to do, all Masons declare.
 With the weight of the onslaught was Hiram so addled,
 By strategic movement to the east he skedaddled.
 But alas! in that place "Oriental" he found
 No "beautiful waiter girls," not "zwei lager" around
 And mindful only to escape—of course;
 "A horse!" he hoarsely bawled, "my kingdom for a horse!"
 "Do you take me for an ass?" and almost stricken dumb,
 Poor Hiram recognized the voice of far-famed J——m.
 This fellow was naught, if you'll believe then
 A sort of Tyrian "Ticket-of-Leave Man,"
 Who makes his debut in this panorama,
 As the murderous villain in this thrilling drama.
 "Jim Dalton," says he, "you were always my ruin,"
 (Meaning Hiram of course), "so up now and be doing;

Give me those secrets that you keep so close,
 Or by the famed River Styx I'll split your nose !"
 But Hiram undaunted, just struck a 'posish ;
 Like Lester in Rosedale, that delectable dish ;
 And the villain, not posted in acts pugilistic,
 Nor daring to try on a combat so fistic,
 Hit Hiram so telling a crack with his gavel,
 That he sent him to grass, or rather to gravel.
 Thus did this ruffian—this foul J——m,
 Knock our Grand Master into Kingdom come.
 " Not a drum was heard, nor a funeral note,
 As his corse " in the rubbish they buried,
 But a fearful remorse their conscience smote,
 As away from the spot the three hurried.
 At midnight hour, when, as I h've heard said,
 When grave-yards yawn and give up their dead,
 These villainous traitors, who had till now deferred,
 The body of poor Hiram had next now disinterred,
 And totting it out of the temple due West,
 On the brow of the hill they laid him to rest.
 A sprig of Shillelah—or Acacia, a branch,
 Was planted near by and they—vanosed the ranch.
 When Solomon came to the temple next day,
 He wondered very much where Hiram did stay,
 And fearing that Hiram might have got into a fuss,
 Sent out detectives to see if there had been a muss.
 Just at this time twelve fellows did appear,
 All clad in clean shirts—much needed I fear—
 A Loyal League affair, in vogue at that day,
 But loyal in nothing but the name I say ;
 King Sol, that wise and mighty potentate,
 Then ordered them at once to separate
 And traveled East, and West, and North, and South,
 In search of Hiram's carcass, and so forth.
 Away they went, and those who traveled West,
 Met a way-faring man, whom they addressed.
 A sort of Connie Soogah, who reported
 Three men he'd seen who wished to be transported.
 But having nary a pass, nor any other tickets,
 They could 'nt make out to pass the outer pickets.
 The three returned, and to the King they told the story o'er,
 Who cried aloud, " Again depart, and travel as before."
 One of the three who raveled West, becoming faint and weary,
 Sat down to rest, at brow of the hill, so lonely and so dreary
 While thus he sat, he heard three shock-
 ing exclamations from a rock ;
 And peeping in—what should he see,
 Bnt J——a and company !
 They seized them all and bound them tight
 And brought them to King Sol that night,
 who ordered them out of the western gate,
 Their horrible crime to expiate.
 A full account of the affair you will get,
 In a former number of the " Jerusalem Gazette."
 King Solomon then got up a procession,
 Of Craftsmen and Masters in regular succession.
 With Gideon's Brass Band on the right of the column,
 Playing a Solomon song in a manner quite solemn.
 When arrived at the grave they all gathered around,
 And with eyes full of sorrow, they gazed at the ground.
 Their noses turned up in a style quite imperious,
 For they smelled nothing like a " Night Blooming Cereus !"
 And King Solomon then—though weak in his joints,
 Raised his dead rabbit up, " a la mode de Five Points."
 Then back to the temple they all of them went,
 And o'er his remains built a fine monument ;
 With a column all broken and a virgin a crying,
 While Chronos stands behind her, her ringlets dyeing
 With Adam's Ambrosia, or Invigorator,
 Of which Crose or Morris was the originator.
 And then—but here we'll draw the mystic veil,
 Of Hiram Abiff, and the tragical tale.—*Masonic Review.*

QUESTIONS.

1. It is said that in the south Atlantic it rained on one occasion for over an hour when the sky was entirely free from clouds. In the Mauritius and other parts of the southern hemisphere this is not a rare occurrence, but in Europe it is, and the greatest known length of its duration was ten minutes at Constantinople. Can any one vouch for and explain this ?

N. G. F., Lancaster, N. H.

2. What is the origin of the name of the county *Coös* ?

N. G. F.

3. What American writer produced "The Adventures of Hans Pfaall," and "The Descent into the Maelstrom," from which Jules Verne's romances are obviously taken ?

J. Q. A., Providence, R. I.

4. What is the origin and meaning of the names *Bertram* and *Rinaldo* ? What quotations include these names ?

B. R. A., Providence, R. I.

5. What countryman said, "we are content with discord, we are content with alarms, we are content with blood ; but we will never be content with a master" ?

Miss E. P.

6. What ancient writer said, "So exquisite is the cunning of mankind in gratifying their vicious appetites that they have thus invented a method to make water itself intoxicate" ?

C. F. A., Oneco, Conn.

7. What is the English of the Latin quotation, "*Et vocem aulivi citharædorum citharisantium in citharis suis.*"

JOSEF.

8. What was the office and character of the *harpies* in the Greek and Roman mythology ?

PAULINA ANDERSON.

9. The following quotations are found in S. Baring-Gould's work on "The Origin of Religious Belief." From what works or authors are they taken ?

X.

1. "All is foreordained." 2. "Luck is foreappointed." 3. "There is no resisting fate." 4. "That must happen which is foredetermined." 5. "What must be, will be." 6. "Man must follow his destiny."

10. What are the dimensions of some of the largest trees in New England, in the United States, in the world ?

C. F. A.

11. The words *candle* and *kindle* both being derived from one root word, meaning "to burn," why are they spelled with different initials ?

LOGOS.

12. In what early arithmetic is explained the property and process of "casting out the 9's" ?

ALPPEUS.

Gems from the Orient.

SELECTIONS FROM SOME OF THE MOST ANCIENT BOOKS OF INDIA.

The soul is the assemblage of the Gods. The universe rests in the Supreme Soul. It is the soul that accomplishes the series of acts emanating from animate beings. So the man who recognizes the Supreme Soul as present in His own soul, understands that it is his duty to be kind and true to all, and the most fortunate that he could have desired is that of being finally absorbed in Brahma.—MANU.

All that we are is the result of what we have thought; it is founded on our thoughts; it is made up of our thoughts. If a man speaks or acts with an evil thought, pain follows him as the wheel follows the foot of him that draws the carriage. If a man speaks or acts with a pure thought, happiness follows him like a shadow that never leaves him.—DHAMMAPADA.

Nothing is commenced nor ended. Life and death are only modes of transformation which rule the vital molecule from plant up to Brahma himself.—ATHARVA VEDA.

Neither by the eyes, nor by spirit, nor by the sensuous organ, nor by the austerities, nor by sacrifices, can we see God. Only the pure, by the light of wisdom and by deep meditations, can see the pure God.—UPANISHADS.

The small old path stretching far away, has been found by me. On it sages, who know Brahman, move on to the heavenly place, and thence higher on entirely free.—YAJNAVALKYA.

The Supreme Spirit is one, simple and indivisible; being all, pervading all, sustaining all, the good, the bad, and the ignorant alike.—BHAGAVAD-GITA.

Study all Scriptures written, near or far; worship all images and saints of earth; but if you do not study who you are, all your best actions are worth nothing.—HINDU VERSE.

Time, like a seven-wheeled, seven-naved car, moves on. His rolling wheels are all the worlds. His axle is immortality.—ATHARVA VEDA.

Resignation, the action of rendering good for evil, temperance, propriety, purity, repression of the senses, knowledge of holy books and of the Supreme Soul, truthfulness, and of abstaining from anger; such are the ten virtues in which consists duty. Those who study these ten precepts of duty, and after studying them conform their lives thereto, will reach the supreme condition.—MANU.

For thoughts alone cause the round of re-birth in this world ; let a man strive to purify his thoughts. What a man thinks, that he is ; the old secret.—UPANISHADS.

Only when man shall roll up the sky like a hide, there shall be an end of misery unless he has first been known.—SVETATARA-UPANISHADS.

There is one Eternal Thinker thinking non-eternal thoughts. He, though one, fulfils the desires of many. The wise, who perceive Him within themselves, to them belong eternal life, eternal peace.—UPANISHADS.

The good is one thing, the pleasant another ; tehse two, having different objects, chain a man. It is well with him who clings to the good ; and he who chooses the pleasant misses his end. — KATHA-UPANISHADS.

It is better to do one's duty, even though devoid of excellence, than to perform another's duty well.—BHAGAVAD-GITA.

SELECTED FROM SOME OTHER SACRED BOOKS OF THE WORLD.

The heavens declare the glory of God and the firmament sheweth his handiwork. Day unto day uttereth speech, and night unto night sheweth knowledge.—PSALM XIX. BIBLE.

Direct us in the right way, in the way of those to whom thou hast been gracious.—KORAN.

To be able to practice five things everywhere under heaven constitute perfect virtue : Gravity, generosity of soul, sincerity, earnestness, and kindness.—CONFUCIAN ANALECTS.

Wisdom raineth down skill and knowledge of understanding, and exalteth them to honor who hold her fast. — ECCLESIASTICUS. THE APOCRYPHA.

Man is a Divine living thing, and is not to be compared with any brute beast that lives upon the earth, but to them who are in heaven who are called Gods.—DIVINE PYMANDER OF HERMES TRISMEGISTUS.

Wealth is profitable to the upright, but to the unjust an evil. Hold thy tongue with care, and secret things restrain fast in thy heart.—SIBYLLINE ORACLES.

The elect shall possess light, joy and peace ; and they shall inherit the earth.—BOOK OF ENOCH.

The whole world was created that the whole world should study it.—THE TALMUD.

Religion finally becomes a conscious union of the human with the divine life. Science and harmony complete the upward march on this line.—BOOK OF LIFE. SIDARTHA.

To the righteous the world is free. Love is the lightest of all burdens.—Man can make himself whatever he will. BOOK OF OSIRIS. OAHSE.

No harmony, no symmetry, no music, no complete whole. To those who have attained to be Gods there is spontaneous growth forever.—BOOK OF APOLLO. OAHSE.

Who sees one another's soul thinking of good thoughts, thinking of good words, thinking of good deeds, and those ways are shining as they go down to the libations. We worship the rightly spoken words. What is the only word in which is contained the glorification of all good things, of all the things that are the offspring of all the good principles? It is Holiness.—ZEND-AVESTA. ZARATHRUSTRA.

There are two ways, one of life and one of death, and the difference is great between the two ways. — TEACHINGS OF THE TWELVE APOSTLES.

The most beautiful living object is one having the fullest and freest manifestation of life. The highest work of science is to lift the mystery of the veil of mechanism of our inner life.—BOOK OF ISRAEL. SIVARTHA.

He is one above three, three are above seven, seven are above twelve, and all are linked together.—SEPHER YETZIRAH.

Two conditions are placed before all men, ascension and declension ; let no man stand still, for so he was not created.—OAHSE.

May we be delivered from the prison of our body, and from our mental bonds, return sanctified and pure, to the divine heritage of our nature.—THE SHECAINAH.

1. Love, seek, and speak the Truth.
2. Abhor, expose, and overcome error.
3. Under all circumstances, keep an even mind.
4. Live for others, bestowing yourself and performing your duties for the good of the whole.
5. Obey your highest convictions of right under all circumstances, and at whatever cost or inconvenience to yourself.
6. Cultivate health, industry, and cheerfulness.
8. Worship and obey now and henceforth, and forever, these six principles—Love, Wisdom, Goodness, Justice, Beauty, Truth.—THE SACRED GOSPELS OF ARBULA.

(SUPPLEMENTARY NOTE to "Resolution of Algebraical Equations by Substitution," in NOTES AND QUERIES, March, 1891, pp. 69-72.)

By adding formulæ (19), (20), and (21), we obtain,

$$1+x+y+z+xy+xs+zy+xyz=\sqrt{(1\sqrt{a+b+c+ab+ac+bc+abc})}$$

$$=4800.$$

B. F. BURLESON.

SERIES.

RATIONAL RIGHT-ANGLED TRIANGLES.

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[SECOND PAPER.]

The subject of rational rectangular solids as given in our former article (Vol. IX, pp. 109-112), has never, to our knowledge, heretofore been discussed; but its kindred theme, that of rational right-angled triangles, has been so frequently treated, that it would seem that nothing new could be given upon it; yet we venture for the sake of completeness, to give a paper on this topic somewhat synonymous with our discussion of rectangular solids in our first paper.

There are, as is well known, an unlimited number of such triangles of which the least possible has sides that measure 4, 3, and 5 units. Although the number of such triangles be unlimited, they may all be readily written out between any prescribed limits by the aid of the following formulæ for finding the sides:

- | | | | | | |
|------|--------|------------|-----------|-------------------------------|--------|
| (1). | $2a,$ | $a^2-1,$ | a^2+1 | where a is any whole number | $> 1.$ |
| (2). | $4a,$ | $a^2-4,$ | a^2+4 | " a " " " " | $> 2.$ |
| (3). | $6a,$ | $a^2-9,$ | a^2+9 | " a " " " " | $> 3.$ |
| (4). | $8a,$ | $a^2-16,$ | a^2+16 | " a " " " " | $> 4.$ |
| (r). | $2ra,$ | $a^2-r^2,$ | a^2+r^2 | " a " " " " | $> r.$ |

PROBLEM 4.

Write out all the rational right-angled triangles there are whose hypotenuses do not exceed the limit of 100.

From formulæ (1), (2), (3), (r) we obtain the following six series of rational right-angled triangles:

(1)	(2)	(3)	(4)	(5)
4, 3, 5,	12, 5, 13,	24, 7, 25,	40, 9, 41,	60, 11, 61,
6, 8, 10,	16, 12, 20,	30, 16, 34,	48, 20, 52,	70, 24, 74,
8, 15, 17,	20, 21, 29,	36, 27, 45,	56, 33, 65,	80, 39, 89,
10, 24, 26,	24, 32, 40,	42, 40, 58,	64, 48, 80,	
12, 35, 37,	28, 45, 53,	48, 55, 73,	72, 65, 97,	(6)
14, 48, 50,	32, 60, 68,	54, 72, 90,		84, 13, 85,
16, 63, 65,	36, 77, 85,			96, 28, 100.
18, 80, 82,	Making 31 in all in these series,			

Although the triangles contained in these series are not all prime to each other, yet they contain all the different prime triangles there are below the proscribed limit of 100. By taking multiples of all the prime triangles there are in the several series which give the hypotenuse less than 100, and rejecting those already found in the series, we have the following 24 additional right-angled triangles not contained in any of the series :

12, 9, 15,	48, 36, 60,	76, 57, 95,	60, 25, 65,
20, 15, 25,	52, 39, 65,	80, 60, 100,	84, 35, 91,
24, 18, 30,	56, 42, 70,	24, 45, 51,	60, 63, 87,
28, 21, 35,	60, 45, 75,	40, 75, 85,	48, 14, 50,
40, 30, 50,	68, 51, 85,	24, 10, 26,	72, 21, 75,
44, 33, 55,	72, 54, 90,	36, 15, 39,	30, 72, 78.

Thus there are found to be just $31+24=55$ rational right-angled triangles whose hypotenuses do not exceed the limit of 100.

PROBLEM 5.

Find the sum S_n of the areas of the first n triangles developed from formula (1); that is, the sum of the areas of the first n rational right-angled triangles whose bases are in arithmetical progression with a common difference of 2, and whose hypotenuses are just two units lower than their corresponding perpendiculars.

SOLUTION.

In order to give a general solution that shall be equally applicable for summing the areas of the first n triangles of any of the series obtained from formulæ (1), (2), (3), . . . or (7), put a = the base of the first triangle in any one of the series, d = the common differ-

ence of the bases in any one of the the series, and c = the difference between the hypotenuses and the corresponding perpendiculars in any one of the series of triangles. We shall then have the four following series representing the legs, hypotenuses, and areas of any one of the series of triangles :

$$\text{Bases, } a, a+d, a+2d, \dots, a+(n-1)d, \dots \quad (1)$$

$$\text{Perpendiculars, } \frac{a^2-c^2}{2c}, \frac{(a+d)^2-c^2}{2c}, \frac{(a+2d)^2-c^2}{2c}, \dots, \dots$$

$$\dots, \dots, \dots, \frac{[a+(n-1)d]^2-c^2}{2c}, \dots, \dots, \dots \quad (2).$$

$$\text{Hypotenuses, } \frac{a^2+c^2}{2c}, \frac{(a+d)^2+c^2}{2c}, \frac{(a+2d)^2+c^2}{2c}, \dots, \dots$$

$$\dots, \dots, \dots, \frac{[a+(n-1)d]^2+c^2}{2c}, \dots, \dots, \dots \quad (3).$$

$$\text{Areas, } \frac{a^3-ae^2}{4c}, \frac{(a+d)^3-(a+d)c^2}{4c}, \frac{(a+2d)^3-(a+2d)c^2}{4c}, \dots, \dots$$

$$\dots, \dots, \dots, \frac{[a+(n-1)d]^3-[a+(n-1)d]c^2}{4c}, \dots, \dots, \dots \quad (4).$$

Developing the numerators in (4), and summing the similar terms by the " differential method " as exemplified in our first paper, we

$$\text{obtain } S_n = \frac{n}{16c} [4a^3+6a^2d(n-1)+2ad^2(n-1)(2n-1)+nd^3(n-1)^2 \\ -4ac^2-2dc^2(n-1)] \quad (R)$$

In order to eliminate c from formula (R), and make it more applicable for summing the areas of the triangles in the r th series, put in it the values of a , c , and d in that series, which are $a=2ra$, $c=2r^2$, and $d=2r$. It will then reduce to

$$S_n = \frac{r}{4} (n^4+4an^3-2n^3+6a^2n^2-6an^2+n^2-2r^2n^2+4a^3n-6a^2n+2an \\ -4r^2an+2r^2n), \quad (R)$$

Now for adapting this general formula for summing the areas of the several series of triangles, substitute in it for

Series (1), $r = 1$, and $a = 2$.

" (2), $r = 2$, and $a = 3$.

" (3), $r = 3$, and $a = 4$.

" (4), $r = 4$, and $a = 5$.

etc., etc., etc.

Making these substitutes severally, we obtain,

For series (1), $S_n = \frac{1}{4}(n^4 + 6n^3 + 11n^2 + 6n)$, (A).

" " (2), $S_n = \frac{1}{2}(n^4 + 10n^3 + 29n^2 + 20n)$, (B).

" " (3), $S_n = \frac{3}{4}(n^4 + 14n^3 + 55n^2 + 42n)$, (C).

" " (4), $S_n = n^4 + 18n^3 + 89n^2 + 72n$, (D).

etc., etc., etc.

In formula (A) if $n = 1$ or 1000, we obtain,
 $S_1 = 6$, and $S_{1000} = 251502751500$.

In formula (B) if $n = 1$, or 1000, we obtain,
 $S_1 = 30$, and $S_{1000} = 705014510000$.

In formula (C) if $n = 1$, or 1000, we obtain,
 $S_1 = 84$, and $S_{1000} = 760541281500$.

In formula (D) if $n = 1$, or 1000, we obtain,
 $S_1 = 180$, and $S_{1000} = 1018089072000$.
 etc., etc., etc.

Thus whatever be the value of n , that value substituted in the formula for it will give the sum of the areas of that number of the triangles in the series.

PROBLEM 6.

If S_n be given in formulæ (A), (B), (C), (D), . . . or (R), find the number of terms or triangles n .

SOLUTION.

As in the preceding problem we will first solve the general formula (R) for n . Clearing it from fractions we find it can be factored into quadratic form as follows :

$$4S_n = r(n^2 + 2an - n)^2 - 2r(r^2 + a - a^2)(n^2 + 2an - n).$$

Solving this equation as a double quadratic, we obtain,

$$n = \sqrt{\left\{ \sqrt{\left[\frac{4S_n}{r} + (r^2 + a - a^2)^2 \right] + \frac{4r^2 + 1}{4}} \right\} - \frac{2a - 1}{2}} \quad (r).$$

Now for adapting this general formula for finding the value of n in any of the series, substitute in it for

Series (1), $r = 1$, and $a = 2$.

" (2), $r = 2$, and $a = 3$.

" (3), $r = 3$, and $a = 4$.

" (4), $r = 4$, and $a = 5$.

etc., etc., etc.

Making these substitutes severally, we obtain,

For series (1), $n = \sqrt{\{ \sqrt{[4S_n + 1]} + \frac{5}{4} \} - \frac{3}{2}}$, (a).

" " (2), $n = \sqrt{\{ \sqrt{[2S_n + 4]} + \frac{17}{4} \} - \frac{5}{2}}$, (b).

" " (3), $n = \sqrt{\{ \sqrt{[\frac{4S_n}{3} + 9]} + \frac{27}{4} \} - \frac{7}{2}}$, (c).

" " (4), $n = \sqrt{\{ \sqrt{[S_n + 16]} + \frac{65}{4} \} - \frac{9}{2}}$, (d).

etc., etc., etc.

In formula (a) if $S_n = 6$, or 251502751500, we obtain $n = 1$, or 1000.

In formula (b), if $S_n = 30$, or 505014510000, we obtain $n = 1$, or 1000.

In formula (c) if $S_n = 84$, or 760541281500, we obtain $n = 1$, or 1000.

In formula (d) if $S_n = 180$, or 1018089072000, we obtain $n = 1$, or 1000. etc., etc., etc.

RECEIPTS FROM ALBERTUS MAGUS. "Bubo a shrick owle, is a byrd wel inough knowen, which is called Magis of the Chaldes, and Hysopus of the Greekes. There bee maruaylous vertues of this Fowle, for if the hart and ryght foote of it be put upon a man sleeping, hee shall saye anone to thee whatsoever thou shalt aske of him. And thys hath beene prooued of late tyme of our brethren. And if any man put thys onder his arme hole, no Dog wyll barke at hym, but keepe silence. And if these thynges aforesayde ioyned together with a wyng of it be hanged up to a tree, byrdes wyl gather together to that tree."

"When thou wylt that thy wyfe or wenche shewe all that shee hath done, take the hart of a Doove, and the heade of a Frog, and drye them both, and braie them vnto poulder, and lay them vpon the brest, and it bee not when shee shall wake, wipe it away from her brest, that it be not lifted vp."

"Take an Adders skyn, and auri pigmentum, and greeke pitch of Reuponticum, and the waxe of newe Bees, and the fat or greace of an Asse, and breake them all, and put them all in a dull seething pot full of water, and make it to seethe at slowe fire, and after let it waxe cold, and make a taper, and euery man that shall see light of it shall seeme headlesse."—[From "The Secretees of Nature, set forth by Albertus Magus, in Latine, newelye translated into English." Imprinted at London by me Wylliam Copland.] No date. Black letter.