SYMBOLIC ANALYSIS.

CHRONOLOGY.

It is confidently asserted that the Canals of the Great Pyramid represent the important events in history; but more particularly the varied course of that great stream of theosophy which originated in the earliest epoch, and subsequently became the mission of the Jewish race—to perpetuate until the time of Jesus Christ.

We now come to the most remarkable series of scientific demonstrations of a religious proposition that the philosopher has ever pondered over. Never before has science been made the exponent of religion. Never has prophecy held the reins over positive philosophy, as she thus holds mathematics as a factor in the demonstration of the religious symbolism of the Pyramid. The great proposition upon which the Chronology of the Pyramid is based is that the inch represents a year. This is the basis of its mystery of prophecy.

The basis for this proposition is startling in its distinctness. It is three, four—even six fold in its application:

The longest measurement in the Pyramid is inches,
is equal to the longest measurement of time in the universe, as known to us. The long-st measurement is the diagonal of the base. The base surface is a square having 91.31 inches on a side and its diagonal is consequently 12,913.34 inches. There are two of these diagonals, and together they make exactly 25,826.68 inches. (Fig. 70.)

Is there anything remarkable in this number? There are two years known in the measurement of time. One, the solar year, is the revolution of the earth about the sun. It takes 365.242 days for the circuit. But the longest measurement of time known to us is the Precession Cycle. This is the revolution of the whole starry host about an apparent axis, the star Alexyone, of the Group Plêiades. This is observed by the fact that the stars rise about 50 seconds later, each year. For this complete circuit of the heavens, (apparently around Alexyone) and the close of the cycle, it requires just 25,826.68 years. Since the longest linear agrees with the longest circle of time—counting inches for years? One relation of this kind may be coincidental. In this problem just given we present the evidence of the dominant or principal square in the Pyramid, its two diagonals, giving the above result; each diagonal is, of course, the hypotenuse of a triangle, and the result may be called the demonstration of the triangle.

Jas. French says:—"We would look, however, for the demonstration of a circle, in a problem involving the revolution of the heavens." On the level of the King's Chamber, at the 50th course of masonry, this is secured. It will hereafter appear that this level is an important point for measurements, giving ample reason for looking to it for the solution of such a problem. The discovery was made by Prof. Hamilton L. Smith, of Geneva, N. Y. The height of the Pyramid, above the level of the King's Chamber floor is 4110.5. This is the radius of a circle which is equal in measurement to the perimetre of the square at the point of truncation—that is, the surface of the base of a pyramid, cut off at the floor of the King's Chamber, (or the top surface of the truncated pyramid left when it is removed,) is 6496.67 on a side.

We mention this to show that this radius (the 4110.5) is not taken haphazard, but of all radii presented, is the one to be chosen—the radius producing a circle equal to the base of a pyramid whose vertical it is. This radius of 4110.5, doubled for a diameter and multiplied by 3.14159 to get the circumference, is 25,827 inches, the length of the precessional cycle. This is the demonstration of a circle.

Now among the dominant measurements of the Pyramid, as already mentioned, is the level of the King's Chamber floor. On the outside of the square, each side gives 6496.67 inches. The four sides give, as before,

Prince in the religious sphere who was to redeem humanity. Every war for 18 hundred years has turned upon the Birth of Christ, or been modified by the creed of his Church. Every political intrigue, and every national constitution is shadowed by the cross or crescent, both of which proclaim Christ the "Greatest of Prophets."

This is the one event which has universally modified history, both antecedent and subsequent. It may be either the Birth or Death of Christ. Whatever may be our belief in reference to the mission, the historical importance of his appearance is paramount. From a religious standpoint the Birth is recognized as the beginning of the era, from the fact of prophecy pointing to that time, and the "star in the east" then appearing. From a purely historical standpoint its importance is testified by the beginning of a new chronology in Christendom.

The point selected on general principles to represent the Birth of Christ is the north wall of the Grand Gallery. This selection is borne out first, by its "fitting" other events and marks; and, second, by a peculiar astronomical proof.

During the 25,827 years of the precessional cycle the pole star, or nearest pole star, changes. At or about the supposed date of the building of the Pyramid the pole star was a Draconis. This star, however, was 3°24' away from the real pole of the heavens, and the revolution of the earth about its axis would make it appear sometimes 3°24' above, and again 3°24' below the real polar point, a difference of 7°44'. Inclination of the earth's axis being 36°, the upper culmination of Draconis was 35°41'24". Its lower culmination was 26°18'16".

This lower culmination is very nearly the line of the descending passage. If a line be drawn as from C to S,
(Fig. 66) from the base center of the Pyramid toward Draconis at its lower culmination, S, it will pass through the intersection of floor and north wall at the extreme lower and northern point of the Grand Gallery, on a surface "elevation," as in the figure. Another line drawn from C to R, towards Draconis at its upper culmination will pass through the intersection of the roof and north or lower end of Grand Gallery. Now this may be taken as evidence that the beginning of the Grand Gallery was an important point in the Pyramid measures. But to make it still more important, or to indicate that this position of the Grand Gallery was not accidental, if we draw a line from C to the exact north pole of the heavens, parallel to the earth's inclination it will pass through the end of the Grand Gallery midway from floor to roof—and at this point a long line, extending the full length of the Gallery is drawn in the rock! This line is 1875.4 inches long; in relation to the symbolisms of the Gallery it may indicate the beginning in 1875 of the influence of the great perihelia of planets in 1881, a most remarkable astronomical "landmark."

This evidence of the importance of the North end of the Grand Gallery is not complete, however, until a line is drawn on the plate, from V to d, intersecting X and pointing to Aleyn, the star around which the precessional cycle occurs. It will also intersect the graven line at the same point as the 30° line from C to P.

Another prominent reason for taking the north wall of Gallery for Birth point of Christ is the following:

From the north wall down to the ascending passage to junction of descending, up descending, a total distance of 2170.536 inches, is a line graven in the wall of the passage, see at g, Fig. 66. If the length of the King's Chamber were added to this (412.132 inches) the total is 2582.668 inches, just one tenth of the precessional cycle.

The great value of this incident is that the number 2582668 could not bear a relation to so many measurements without design.

A limiting that the location of zero in our chronology is at the north wall, and every inch is equal to one year, let us see what dates are recorded:

Down ascending passage to floor junction of descending passage, (Fig. 71), from H to I is 1291.3 inches, and to O is 1489, H to L 1542. From C, the axis line of passage) to P is 1532.5, and to E is 1562.8 inches. We would take the dominant measure to be the floor line from H to L. These are English inches excepting from H to L, which are Pyramid inches.

Now these dates must be B C. and 1542 is the supposed date of the "burning Bush," at which time Moses received his first mission to take the children of Israel out of Egypt. 1488 is very near the date of the Exodus. Thence passing up the descending passage to the extreme point of the present floor—or to where it met the layer of rock which backed the casing stones, we reach 2227 inches, which is represented as the "Dispersion," or the breaking up of the human race into different nations. Although these dates are far from being well established, and full short of the demonstration given to the inch-year proposition, still one or two quite remarkable incidents have occurred in discovering them.

Mr. Casey, a Pyramid student of great application, wrote to Prof. Smyth that if these passages were chronologically they certainly would have some mark to indicate its own erection. And as the date of the erection had been almost positively fixed at the beginning of the precessional cycle in 12170 B C, Mr. Casey add, "According to this theory [inch-year] that date must be three or four hundred inches down inside the top or mouth of the entrance passage. Is there any mark at that point?"

The Astronomer Royal hastened to his notes, computed the distance, and lo! There graven in the wall, on either side, was a line perpendicular to floor of passage, as seen in Fig. 48, 2170 inches from the Grand Gallery! No one will be so foolish as to suppose chance engraved these lines!

The next feature after the birth of Christ, or the north wall, is the Crucifixion, and just 33 inches up the Grand Gallery is the mouth of the Well, descending down into the Subterranean Chamber, or the grave. The analogy is carried still farther by the removable removal of the ramp stone to get to the well, (p. 87). There are many features about this Gallery that are appropriate for symbols of the Christian dispensation. Some of them are exceedingly imaginative. The ramp holes being open, are designated as graver, open because Christ has opened them by his death. Against each ramp hole in the wall is set a finely cut stone of certain height. This is represented as symbolizing the flight of the soul. The size of the ramp holes is 8 by 7 inches. Seven is, in mystic numbers, the sign of the consummation, and eight refers to new life! The seven tiers of overlapping stones, either side, are referred to the seven churches of Asia. The 36 roof-stones are supposed to represent the 36 months of Christ's ministry, extending over the entire period of the Christian dispensation.

Whatever may be the future of the Pyramid's chronology, at present it is an exceedingly tangled thread, with here and there a gleam, in the shape of some date which fits the space, but probably removed from all its connecting links.

There are strong analogies, but in a study of unsustained data, liable to error, and not necessarily attached to our subject. Especially is the upper end of the Grand Gallery, with the 3-foot step, made to yield a multitude of coincidences connected with the advancement of civilization, religion, and human freedom during this latter day. Probably the most important part is the nature of the "impending wall" at the north end, and the narrow passage beyond, which symbolizes the closure of the great present epoch, and end of the age—that not the end of the world. In continuation of this idea the King's Chamber represents the second coming of Christ. The narrowing of the Grand Gallery into the passage to Antechamber signifies great tribulation to fall upon the earth from 1881-2 to 1886. As this is the age of the great planetary perihelia, the probabilities of its correct prophesies seem startling indeed.

Chronological Notes.—The length of the Grand Gallery on the graven line, is 1875.4 years or inches. (Fig.
72. The Evangelical Alliance was formed at that time. The length of the Grand Gallery on the floor, from the north wall to step at A, is 1812.996 inches. The base measure of the Pyramid, 9131.05 inches, divided by five is equal to 1826.21, which reaches to K, on an imaginary continuation of floor line. K is 13.224 from A. This is also the distance from L to M. The full Gallery length, 1878.4—1880.21 = 92.19. This is also the length of the passage K to L, or K. The coincidence indicates some significance in the date.

The north wall of the Antechamber is rough, unfinished. The other sides are finely finished. This indicates that the north wall is not used for the same purposes as the others, and we naturally take it to be chronologically misplaced. This displacement is put at 55.74 inches, or this reason: The entire length of the Antechamber is 116.26 inches. From M to N, the first granite block, the floor is raised 3-10ths of an inch. The north wall being displaced, it is natural to connect this raised stone with its correction. From N to V is a distance of 55.74. If the

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65. The chronologic import of the Queen's Chamber and its passage, is involved in even greater doubt than the upper channel. Some writers believe its rough, horizontal plane and rugged outline represents the character of the Jews, as distinct from Christendom. We will suggest that if the modern theory of identity between the lost ten tribes of Israel and the Anglo Saxon race be true, that the diverging channels, which deviate at the symbol of the death of Christ, represent the history of both branches of the great Semitic race. It is objected that their history could not be contemporaneously represented by passages which differ in length. Mr. Thomas Wilson, a prominent and careful Pyramid student, claims that the horizontal passage goes 25 feet beyond the vertical axis which strikes the upper passage at n, Fig. 72. But he also states that the year-space in the lower passage is 1.115 inch instead of one inch. We presume this is represented in Fig. 73. A B is a line on the incline. The same distance carried horizontally will extend to E, or C D becomes E C. Hence, the horizontal passage must be longer contemporaneously. But is it true that the inch year should be lengthened? If modified at all, should it not be shorter on the horizon-

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73. The entrance angle of the Great Pyramid is such that in the year 2170 B.C. the then North Star was Draco.
shone directly down its dreary length—to the subterranean Chamber. No other light than the dim radiance of "The Dragon" ever penetrated it. At the same time, 2170 B.C., the axis star of the heavens, Alcyone, shone brightly over the apex. This occurs, as indicated before, once in 23,826.68 years. Alcyone was the Greek "Halycon,"—happy star. As Alcyone was Queen of the Pleiades, their "sweet influences" (Job) were peculiarly the Great Pyramid's benediction. This year, (2170 B.C.), the year of the Pyramid's erection, confirmed by the gравен line in descending passage, was known in astronomy as the "Great Year of the Pleiades."

Sun's Distance.—The angle of the Pyramid's sides is such that for every nine inches of vertical the side measurement is 10. Also the diagonal of the base, given in Fig. 70, bears the same relation to the sides. Now the vertical height of the Pyramid, 5813 inches, multiplied by 10 raised to the 9th power equals 5,819,000,000,000 inches, which are equal to 9,840,270 miles, the correct distance of the sun from the earth!

Regarding this figure, there has been much discussion in the astronomical world. When the sun's distance from us was first given by astronomical computation, the received opinion of the savants was 95,000,000 miles, and the former estimate received no little ridicule. The latter number had even been increased by what were then recent calculations. A writer in "Our Rest" compends the history of "sun science" as follows: "The ancients estimated the distance of the sun from the earth at 10 miles;* it was increased afterward to 10,000 miles; then it ran up to about 2,500,000; it then took another leap to some 38,000,000; early in this century it reached 95,000-960 miles; then it decreased to 91,500,000; again it increased to 92,500,000, [most astronomers put it at 93,000,000]; now it is estimated at 91,840,000 miles." No common language will describe the thrill which electrified Pyramid students when the extensive and expensive observations recently taken of the "transit of Venus,"—observed in every part of the world—gave the astounding parallel result of 91,840,000 miles. This is just 240 miles from the Pyramid estimate—with a parallax of 8.578 seconds of a degree? The "Les Monodies" of Paris, truly remarked, "The Great (Grande) Pyramid has conquered?"

Not only does the Pyramid give the sun's distance, but it gives very precise data regarding the earth's size, specific gravity, etc. The distance of the sun is obtained, as mentioned, by multiplying the vertical of the Pyramid by 10 raised to the 9th power. If this result, 91,840,270, be divided by twice the vertical of the Pyramid we get 7,999.56, which in miles is the exact diameter of the earth.

Another astronomical feature is that the perimeter of the Pyramid's base is equal to the circumference of a circle whose diameter is also twice the vertical of the Pyramid. The circle's circumference is 36524 inches.

9181, the number of inches on a side, multiplied, by four the number of sides, equals 38524, inches. Also, 9081, the number of inches in the vertical, multiplied by two to get the diameter of a circle, and then multiplied by 3.14159 to get the circumference, equals 36524.12554.

(Fig. 75.)

The number is peculiar, for if the decimal be placed two points to the left it represents the number of days and fraction of a day required for one complete revolution of the earth about the sun—a year. The fraction is not exact, but a correction of one-tenth of an inch in the base side, or the diameter of the circle, (one-tenth of an inch in about 10000 inches) would remedy the defect—and we are not that certain of the measurements given. The subject of days will come hereafter.

The above two problems show the importance, in Pyramid measurements, of the circle whose radius is equal to the height of the Pyramid. The diameter of this circle into the earth-sun distance equals the earth's diameter. The circumference equals the number of days in a year with the decimal point placed two degrees to the right.

Under the head of astronomical relations come many singular cosmical facts. For instance, the Pyramid is placed on a certain parallel of latitude, and being there, is, of itself, sufficient evidence that it was so placed by design. A line drawn through the Great Pyramid, around the earth, parallel to the Equator, will divide the land...
son of Seth, seeing the knowledge which came to them from a divine source, dying out, built two monuments—one of brick and one of stone. This stone monument was to contain the science of the universe. And of course, they built it at home where they could best labor and study—in Chalceda! Not so. From some impulse—or guidance—or scientific knowledge, they went to that point on the earth’s surface where it alone could unlock these mysteries of cosmos—to the “Siriad,” or Egypt. Nor could they have selected a less likely location from a human standpoint—for at that time Chalceda and Palestine were the Garden of the world, while Egypt was an oasis, peopled by descendants of Ham, the banished one—a race cursed in the Bible by terrible prophecies which have been fulfilled to the very letter. Put this statement of Josephus by the side of the tradition of Melchizedek and Philitis, and the history of Heroditus, and then ask, Who built the Pyramid? A foreign, or a native race?

But to secure that parallel which divided the earth’s land surface in halves was not the only object in building the monument in Egypt. As will be shown hereafter, the shape of the Pyramid gives us the quadrature of the circle. To do this required a certain shape and certain construction, and that construction produced a certain Azimuthal indication of latitude. That indication was for the 30th parallel—the only parallel on the globe where the geometrical and astronomical relations would harmonize!

**They were the inventors of the peculiar sort of wind-m which is concerned with the heavenly bodies and their order. And so is it predicted that the world was to be destroyed at one time by water, and another by fire, they made two pillars, one of brick, and another of stone, so that if the brick pillar was (were) destroyed, the stone pillar, and its remains and exhibits their discoveries to man and man. Now this stone pillar remains in the land of Siriad (Egypt) to this day.**—Josephus’ Antiquities, Book 1, Sec. 2 and 3.

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130 A GREAT MYSTERY.

such a band is 500,946,300 inches. 2nd, by height: The height of the Pyramid multiplied by 276,000, divided by 3.14159 to get diameter, gives us very nearly even 500,000,000 inches, which is the polar diameter. The reason it is multiplied by 276,000 is that a circle equal to the area of the square base is 276,000 inches in circumference. It is plain that a mind who could provide for such vast mensuration understood the shape of the earth.

Our space will not permit following the astronomical and cosmical features farther; but the mine is scarcely opened; while if the key to the Great Monument were in our possession, those disconnected items would doubtless take proper and harmonious place in a complete and reasonable whole.

Orientation.—The almost astronomically exact orientation of the Great Pyramid is indeed a remarkable feature. Without knowledge of the earth’s shape, or motions, and an exact line from Aegypt to Draconis, the east-and-west, or north-and-south direction of the sides could not have been accomplished. It never did occur in other ancient buildings. Glaedon remarks that this feature indicates that they were familiar with the compass, but it is known that the needle always points several degrees west of the direct north pole. The sun’s rising would have been of no avail, for it varied from equinox to equinox. Altogether, the placing the structure east and west correctly is corroboration of the astronomical date of the Pyramid’s erection.

The polar axis of the earth is generally accepted as 500,000,000 Pyramid inches. Twice the height of the Pyramid in inches (5882) equals 16936, or just 100 times the length of the ante-chamber. Now multiply the polar diameter by this, and reduce to miles, and we have 91,745-

We have not the space to work out this problem, but it indicates a God-like intelligence to have originally conceived it. The latitude of the Pyramid is now given as 29°35'6"*, involving a possible error of 54" in the 1,396,000" in the earth’s circumference—possibly due to our faulty instrumentation, or possibly an azimuthal change in polar axis during 5,000 years. It will be further noticed that the Pyramid axis (Fig.74) is about 90° from the Plane of the Heavens. Now we know the earth to be spherical in shape. Hence, is not the circumferential difference of A to B less than 0 to 8? Therefore, would 30° of latitude from the equatorial axis, on the earth’s surface represent 90° from the Plane of the Heavens? We put the proposition clearly—that the 56° of deviation of the Pyramid’s latitude from 30° is neither an error of instrument, nor a change in polar axis, but represents the spherical shape of the earth.

The Great Pyramid gives an approximate measurement of the earth’s size in two ways. (The word “approximate” signifies fallibility in our measurements). 1st, by breadth: A band around the earth, the breadth of the Pyramid base, contains 100,000,000,000 square feet. The diameter of such a band is 500,946,700 inches. 2nd, by height: The height of the Pyramid multiplied by 276,000, divided by 3.14159 to get diameter, gives us very nearly even 500,000,000 inches, which is the polar diameter. The reason it is multiplied by 276,000 is that a circle equal to the area of the square base is 276,000 inches in circumference. It is plain that a mind who could provide for such vast mensuration understood the shape of the earth.

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**580 miles—very nearly the distance of the Sun, and agreeing with a strong report of a section of the observers of the recent transit of Venus.**

### THE METRICAL SYSTEM.

All of our readers are doubtless aware that the French Government seek the universal adoption of their metrical system for weights and measures. That is, that weights and measures should increase and decrease by a scale of 10, having the 1000,000th part of the earth’s polar quadrant for a standard. (Fig. 77.) This was called a “meter.”

The principle involved in a decimal system is a good one, but the radical adoption of a system which would over turn the weights and measures of centuries would prove a national calamity. And still, were it necessary to attain the actual benefits to make a sacrifice, the world at large would undertake it. When, however, a nation undertakes to thrust upon us a system which is based upon acknowledged error, and is removed from the practical workings of trade and commerce, it is better not to embrace it too precipitately.

The great difficulty in fixing unalterable weights and measures is to secure a standard which shall never vary—one which the heat and cold of climate, electric conditions, or human interferences cannot modify. Nations have preserved standards at their capitals, but they will corrode, or shrink, or suffer from intriguing politicians. The 1000th of an inch makes little difference in a foot, but in the earth’s circumference it spans some 25 miles.

The French nation adopted as their standard one ten millionth of a quadrant of the earth’s circumference on a meridian of Paris. The folly of thus deliberately taking those measurements for a standard which can not be math-
centrically operated was only equaled by the more desperate folly of the bloody banishment of all religion from her borders at that time—the revolution. The circumference of a circle can never be mathematically measured. The arc is not much better. But worse yet—an arc which describes one quarter of a sphere. Even the effort to establish a standard on a curved line was unscientific. This new standard—one millionth of the quadrant—called a meter, is 39.371 inches in length—that is, it would be if it were correct! As it is, it is two small by 1-3500th. They also had the misfortune in producing a cognate standard of density to get spurious metal mixed with the cube, and untold calculations based upon the mass are “out of line.”

The Pyramid has a metric system of its own—one that can teach modern science much, and modern antiquarians more—for the metric system of this hoary headed monarch proves to be that standard which has come down to us—filtered through all nations—from the remotest of times. It takes its standard from a straight line, and one mathematically immovable—the only one on or in the earth. It is one-half the polar axis, or the radius of a polar circumference. The earth’s polar diameter is reckoned at 500,000,000 English inches. One 500,000,000th of this calculation equals 1,001 of our inches. This immensely small difference is not due to variation in the Pyramid, but in 5000 years of wear and tear the “inch universal!” has been modified that much. The inch is the great standard of the Pyramid, and under some title is the real standard of the Celt’s, Saxon, Gothic, and possibly, Teutonic races. 25 Pyramid inches equal the sacred cubit of the Jews. This can now be considered a settled fact.

This cubit, which often appears in the construction of the Pyramid, is the 1 ten-millionth of the earth’s radius of revolution (half-axis), or straight line used by the Pyramid to establish the inch. It is a cubit of most remarkably a cient history, being known as that measure “given by Jehovah to the Jews” to build all the sacred appurtenances of worship, including the temple and contents.

In the Pyramid it occurs prominently as follows: It is the measure of the top of the great niche in the Queen’s Chamber, (p. 168). In order to ascertain the number of days in a year the base line is divided by that number which is a factor with 365.242—the cubit of 25 inches. The embossing on the granite portals in antechamber, is supposed to be a cubit divided by five, being five inches long. Its height from the granite leaf is one-fifth of its breadth or just one-inch.

The length of the King’s Chamber is 412.193 inches. Now 412.193 cubits is the diameter of a circle whose area equals the square base of the Pyramid—355.242 cubits on a side; and, on the other hand, a square having 412.193 cubits on a side is of equal area to a circle whose radius is equal to the height of the Pyramid, 292.520 cubits. Does any one imagine that these relations, which can be greatly extended—correct to a fraction—could occur if the sacred cubit were not involved in the construction? It may be of note that not only is the sacred cubit employed, and the inch which has come down to us from a remote antiquity, but the cuber in the King’s Chamber is of exactly the same cubical capacity of the “Ark of the Covenant,” of the Hebrews. This cuber is a most wonderful object. It is the great standard, of which the modern British Quarter measure is just one-fourth! English people who measure a quarter of wheat do not realize that their “whole” measure is in the Pyramid! Is there any chance in the construction of this cuber? Its internal space has precisely the same cubical volume as its solid sides and bottom; the length of its sides constitute the circumference of a circle, the diameter of which is its height; it is just “one-fifteenth” the size of the chamber in which it is enclosed! The identity in capacity with the Ark of the Covenant (Tabernacle and Temple) confirms the theory of the use of the “sacred” cubit. The cubits of Memphis, Palestine, Babylon, Greece, etc., were very different measures. No other building in Egypt has been built by the sacred standard. Dr. Seiss emphasizes the fact that Solomon’s “molten sea,” was 50 times the size of the ark, and hence just the size of the King’s Chamber.

By these scattered evidences in the Pyramid, we know a certain system of linear measure has pervaded the social and commercial fabric since the human race originated. The inch has been referred back to the “thumb-breath.” Inches make a palm and palms a cubit. But even the cubit may now be discovered in this structure which antedates history. So modern measurement appears to have as ancient an origin, the cuber agreeing precisely with the Anglo-Saxon quarter.

This ancient system being based on the only cosmic standard of value, the axis of the earth’s rotation, why demoralize the commerce of the world to force upon the people a system whose linear is in error by computation, and whose metallic standard is in error by adulteration? Still worse were such a policy when it is exceedingly unpractical to “jump” measures by multiples of 10. Insofar as the decimal system can be fairly used the Pyramid system contains it. A decimal scale to be of use must break up into convenient fractions. Our money is only partially decimal. The half-dime, quarter-dollar, 3-cent-piece, quarter eagle, etc., illustrate this. The foot of 12 inches may be changed to 10. But the inch can never be taken away. And with the foot of 10 inches, what more natural division next than the quarter of a hundred, “25,” —a cubit. Then 100 cubits now equal an “acre-side.” In weight measure the great scientific standard for mean specific gravity, is exactly the 12500th part of the cubical contents of the cuber, and give us the modern “pint”—a Pyramid pound, as it is “the world around.” This pound divides evenly by 10 for grains, and increases by decimal multiples and four for chaldrons, tons, etc. Then if the national standard must be simplified let it be by those slight changes which will conform it to the great standard which has remained imperishable since the foundation of society.

Before passing this topic we add a few problems from a pamphlet just sent us by its Author, an accomplished Civil Engineer, showing the relation of the cuber to the

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**Fig. 27. Measure standards. N.P.**

**Fig. 28. Relief sculpture on the granite bar or porcellum in Antechamber.**

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Pyramid: The total length of the Antechamber floor is 116.26 inches. It is the diameter of a circle whose circumference is 365.243—to the days in a year; multiplied by a cubit it equals 9131 inches, the base side of the Pyramid.

This 116.26 multiplied by 50, (a double cubit, and course of masonry on which the Antechamber rests), we have the vertical of Pyramid, 5513 inches. But 116.26 multiplied by 2=the vertical in cubits.

The granite floor of the Antechamber is 103.053 inches long. It goes into the breadth of the King’s Chamber twice exactly, its length 4 times, and its height 2.236 times—which latter figure is the square root of five. The sum of the squares of these numbers (4, 16, and 5) is 25=to the sacred cubit. Into the diagonal of the end of the King’s Chamber this 103.053 will go 3 times; into the floor diagonal 4.472 times, into the side diagonal 4.582 times. The sum of the squares of these numbers is the double cubit, 50.

The length of the King’s Chamber, 419.132 inches is the diameter, in cubits, of a circle whose area is equal to a square the size of the base of the Pyramid.

A square having 419.132 cubits for the length of a side is equal in area to a circle whose radius is equal to the Pyramid’s height.

**QUADRATURE OF THE CIRCLE**

The real mathematical problem involved in the construction of the Great Pyramid is not yet evolved. The chronological analogies, and the astronomical features, are only disconnected wonders which indicate the presence of a precise and consistent plan upon which the whole structure was erected. Angulation and mensuration of the half of it will give one side of a square of equal area to the circle. Both of these formula require the circumference, or the proportion of circumference to the diameter. Therefore, the great difficulty in the way is to secure this proportion. And in mathematics it is always known as the Pi proposition.

Archimedes proved that the relation of the diameter to the circumference was nearly that of 1 to 3.1416 using a polygon of 96 sides. Ludolph Von Ceulen computed a circle having 36,593,488,147,419,103,232 sides, and the fraction he secured thereby was—(D=diameter; C=π or circumference):

\[ D : C :: 1 : 3.14159265358979323846264338327950288+. \]

The error in this computation is so small that in a circle whose radius is 250,000 times the distance of the earth from the sun, the correction would be less than the millionth of the width of a human hair.

Does the Pyramid represent this Pi proposition? It does. Do other Egyptian monuments represent it? No, not one. Could not this peculiar shape be a coincidence? Once among a thousand million chances, but not a dozen times in one monument!

Fig. 79 represents the two prominent problems involved. The square ABCD is the base, 9131.05 on a side, E to F is the vertical height. The vertical is twice the base side as 1 is to Pi:

\[ 5813 : 9131.05 \times 2 :: 1 : 3.14159+. \]

This is a very singular fact. But the perimeter of the square base is also equal to the circumference of the circle—Diameter of circle being 11626:

\[ 9131.05 \times 4 = 36524.2 \]
\[ 11626 \times 3.14159 = 36524.2. \]

It is among the most remarkable circumstances, that the first discovery of profound mathematical import in the Pyramid was the sudden interpretation of what is known as the π proposition, (Greek letter π). This is the substance of the quadrature of the circle, represented by the formula:

Diameter : Circumference :: 1 : 3.14159+ or π.

The formula is the nearest means of finding the side of a square which is of equal area to a circle. The exact operation which will reduce a circle to a square of equal area has never been found.

The Quadrature of the Circle, is one of the great problems associated with mathematics in all ages. It is not, as some have supposed, in recent Pyramid literature, the reduction of a circle to a square form of equal perimeter, but its reduction to a square of equal area. The circle is a polygon, with an infinite number of sides, and mathematics can never measure a curved line any nearer than to compute for a number of sides to any circle until they are so small that the error is unimportant. Hence, the relation of a circle to a square is the computation of the area of a polygon; but this polygon has an unlimited number of sides. The formula for computation may be (1) to multiply the square of the radius by the proportion of the diameter to the circumference, or (2) multiply the radius by the circumference for a rectangle, and the
of masonry protect it in the nearest approach to the surface. And if the King's Chamber varies any, the Subterranean Chamber is as silent and untenable as the womb of earth itself. In the midst of the mystery of the Pyramid is this provision for the perfect preservation of standards for future measures. The temperature is 65° F.

TIME DIVISIONS.

As already illustrated, the Great Cycle of time measured by the precession of the equinoxes, or revolution of the heavens, 25,826.68 years in extent, is so prominently recorded in the Pyramid that no doubt of intention, on the part of the builder, can be entertained. It constitutes, also, indisputable evidence (to our mind) that the period of its erection was 2170 B.C., the beginning of the Great Cycle.

The year is also represented in centuries, as given in the numerous problems of the previous sections. The most prominent, is the fact that the perimeter of the base of the Pyramid represents a century, each side being 25 years in extent. Thus 9133.105 inches divided by the sacred cubit (25 inches) equals 365.243, or one year, even to the hours, minutes, and seconds. The century is also given by the circle which has the height for a radius, (Fig. 75). In this we have the measurement of time represented as an incommensurable—produced by multiplication with 8.14159, or π.

The Grand Gallery is given by some, however, as a symbol of the divisions of the year.

And the first prominent indication is for weeks. The various considerations presented to us have led us to believe the Grand Gallery especially devoted to “Time,” and hence its peculiarities may well be referred to time divisions. Therefore it is said that the seven overlapping stones, or tiers of masonry in the sides represent the weeks of seven days. Ten and five are the Pyramid numbers, seven rarely entering as a factor. However, the Grand Gallery is seven times as high as its entrance passage. That part of the horizontal passage in the “cut away” of Grand Gallery floor, (Fig. 53, p. 87), is one-seventh the whole length of the horizontal passage. The enlarged south end of the horizontal passage is also one-seventh of the entire length. The Queen's Chamber has seven sides. Mr. Smyth refers all these circumstances, as symbols, to the week of seven days. We do not see any application except in the case, possibly, of the overlapping stones of the Grand Gallery. It is difficult to see why the passage should be so low and difficult, and the Grand Gallery suddenly seven times higher without some symbolical import. Prof. Smyth likewise held the idea that the seven overlapping tiers on each side represented two weeks of months, or 14 months of 26 days to the year. And this he regarded as a more reasonable division than 12 months, as it leaves but one day to be added to 26 days at the end of the year, and two on leap years. At present we add five or six days to one-twelfth of 360, or 30, the even length of our months. Then to indicate the imperfections of the months there are 28 ramp holes on one side and 26 on the other; and the two last—at upper end of Grand Gallery, extend under the wall, as if referring the observer to the Antechamber. In the Antechamber we find on the sides four ridges; three curved, or hollowed, and one full and straight.

These are supposed to represent the three imperfect years, and the fourth perfect. Some other refinements are added to this theory. On the whole, while it may contain the germs of a great truth, the evidences lack strength, and do not satisfy a demand by considerable.