

NEW MEASURES

OF THE

GREAT PYRAMID

BY A NEW MEASURER.

DESCRIBED AND TESTED BY

C. PIAZZI SMYTH.



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J. Allen Warner

NEW MEASURES
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BY A NEW MEASURER.

*“ And thou, ——— my son, know
thou the God of thy father, and serve Him
with a perfect heart, and with a willing
mind ; for the Lord searcheth all hearts,
and understandeth all the imaginations
of the thoughts : if thou seek Him He will
be found of thee ; but if thou forsake Him,
He will cast thee off for ever.”—1 Chron.
xxviii. 9.*

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Described and Tested by
C. PIAZZI SMYTH,
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—
March, 1884.

*“How say ye unto Pharaoh, I am
the son of the wise, the son of ancient
kings? Where are they? Where are thy
wise men? and let them tell thee now, and
let them know, what the Lord of hosts hath
purposed upon Egypt.”—Isa. xix. 11, 12.*

TO
The International Institute,

CLEVELAND AND BOSTON, U.S.A.,

FOR PRESERVING AND PERFECTING HEREDITARY WEIGHTS
AND MEASURES,

MORE ESPECIALLY THE ANGLO-SAXON, AND FOR
THE DISCUSSION AND DISSEMINATION OF THE WISDOM CONTAINED
IN THE GREAT PYRAMID OF JEEZEH IN, BUT NOT OF, EGYPT,

This Little Book,

DESCRIPTIVE OF SOME NEW INFORMATION ON THE GRAND SUBJECT
WHICH THE MEMBERS HAVE SO MUCH AT HEART,

Is Dedicated

BY ONE WHO HAS WORKED AT THIS PYRAMID QUESTION FOR CLOSE
UPON TWENTY YEARS (OR EVER SINCE THE DEATH OF
THE LATE JOHN TAYLOR,
WHO COMMENCED IT ON ITS PRESENT LINES), AND WITH
CONTINUALLY INCREASING BELIEF THAT THERE IS
MORE THAN ACCIDENT, MORE THAN MAN'S INTENT, IN BOTH ITS
PRIMEVAL ORIGATION AND NOW LATTER-DAY
INTELLECTUAL DEVELOPMENT,

Is Dedicated most Respectfully,

BY THEIR DEVOTED FELLOW-LABOURER,

C. PIAZZI SMYTH,

Astronomer-Royal for Scotland,

AND FOR THIS CAUSE, EX. F.R.S., LONDON.

Edinburgh, March 25, 1884.

2091780

“And besides this, giving all diligence, 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.

“For if these things be in you, and abound, they make you that ye shall neither be barren nor unfruitful in the knowledge of our Lord Jesus Christ.”—
2 Peter i. 5—8.

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P R E F A C E .

THAT which immediately follows is a reprint of the first two pages of the first edition of my book, "Our Inheritance in the Great Pyramid," published in 1864 ; and is the best explanation I can offer now for the formal issue of the present dissertation, or review—written at particular request.

(PAGE 1 OF 1864.)

"TO JOHN TAYLOR, ESQ., OF LONDON,

"In his Eighty-fourth year,

"Author of 'The Great Pyramid: Why was it Built and Who Built It ?' (in reference to which Lord Neaves, vice-president, in the chair, at the Royal Society, Edinburgh, on the evening of March 21, 1864, said:—'If these things are only coincidences, they are most extraordinary coincidences; but if they are facts—that is, if the metrical proportions indicated were designedly and purposely established, they form the most remarkable discovery of the age'), this attempt to follow out some of his (J. T.'s) arguments, and to test the truth that is in them, is dedicated by the friend of his latter years and admirer of his true and earnest life.

"C. PIAZZI SMYTH.

"Edinburgh, June, 1864."

(PAGE 2 OF 1864.)

“In the short interval between the printing and publication of this book, the estimable John Taylor is dead.

“During the late spring he had come to know, only too surely, that his mortal career was drawing rapidly to a close, while many years, he considered, might still elapse before his Pyramid discoveries would be appreciated in the world. But he had already calmly resigned himself to believe that *he* must pass away before the popular prejudice with which a new view is always received can be forgotten.

“‘The *Cause*,’ he wrote recently in a private letter, ‘is the grand object; and if in any manner we are able, while on earth, to *vindicate the ways of God to men*, we have not lived in vain.’

“But again, rather checking himself, he added: ‘*Many* must approve before the thought will enter into the popular mind; and if that result ever takes place, I am only one among many who are entitled to any commendation; nay, there is no room for commendation to anyone, for all do but impart what has been *given*. “Paul plants, Apollos waters, but it is God gives the increase.” I suppose this is the meaning of the elders casting their crowns before the throne in Revelation iv.’

“(‘Saying, Thou art worthy O Lord to receive glory, and honour, and power; for ‘Thou hast created all things, and for Thy pleasure they are and were created.’)

“Such was the spirit which fell asleep in the Lord, on the 5th of the present month, July, 1864.

“C. P. S.”

While, further and later, to quote from the Preface to the *Fourth* Edition of the same book:—

“When the late worthy John Taylor (publisher to the London University) produced in 1859, his larger work, entitled, ‘The Great Pyramid: Why Was it Built, and Who Built It?’ and afterwards, in January, 1864, his smaller pamphlet, ‘The Battle of the Standards’ (of Linear Measure)—the ancient of 4,000 years against the modern of the last fifty years—the less perfect of the two, he opened up for archæology a freer, nobler, more intellectual pathway to light than that study had ever enjoyed before.

“But academic archæology would not accept it; indeed the whole reading world stood askance; and I can hardly now explain how it came about that something induced me in February, 1864, to commence an independent examination of Mr. Taylor’s theory; and my first publication in September of that year (*i.e.*, the first Edition of ‘Our Inheritance in the Great Pyramid’) contained the findings so arrived at. Findings, in many points confirmatory of the principal thread of Mr. Taylor’s chief and most startling discovery, but exhibiting in the general literature of the subject, and on which, unfortunately, he had been obliged to depend too much, a lamentable deficiency in the accurateness of nearly all the numerical data required: and which necessary exactitude nothing but practical examination and instrumental measure *at the place* could hope properly to supply.

“Meanwhile, John Taylor died, and with almost his last breath emphatically confided this, the most important labour of his long life-toil, to my most unworthy hands.” And then follows the account of how, accompanied by my Wife, and with all the measuring apparatus I could muster, we went out to Egypt in November, 1864, and toiled at the Great Pyramid until May, 1865.

With this introductory insight into the manner in which I began with the Great

Pyramid subject full twenty years ago, the reader may all the more readily enter into, and understandingly appreciate, the question as attacked and defended in 1883-1884.

C. PIAZZI SMYTH.

NEW MEASURES OF THE GREAT PYRAMID.

PART I.

Two New Authors on the Great Pyramid.

CHAPTER I.

MR. PROCTOR'S BOOK.

ON being recently informed by a friend that Mr. Flinders Petrie's much expected book on the Great, and other Pyramids in Egypt, was out at last, I not only sent for a copy of it,* but ordered one at the same time of Mr. R. A. Proctor's lately compiled and very showy volume, entitled, "The Great Pyramid, Observatory, Tomb, and Temple," London, 1883.

The latter work arrived first, and I opened it immediately, specially to see what could possibly have formed the ground of its author's serious accusation—which I had heard of already from several quarters—to the effect that I had discredibly brought out results

* "The Pyramids and Temples of Gizeh," by W. M. Flinders Petrie. Field & Tuer, London, 1883.

for the Great Pyramid, "by what school-boys call the method of fudge." The book, however, has no index; its table of contents is comprised in twelve lines, and though I read till I was wearied in the mass of got-up printed pages which follow, it was not my fortune to alight on the indictment alluded to, nor to learn anything new and really true about the Great Pyramid.

But I did learn not a little about Mr. Proctor's overweening notions of astrology, and the extraordinary assurance with which he can charge upon others the inventing of new religions, and the holding, in reality, of most anti-religious opinions, such as they have never given utterance to, and thoroughly eschew on presentation as being positively anti-Christian. In short, the book, and why did he ever write it, is mainly Mr. Proctor publishing himself; and who can prevent him doing that?

CHAPTER II.

MR. F. PETRIE'S BOOK, AND HIS ANTECEDENTS.

MR. Flinders Petrie's work proved, however, on its arrival, to be a very different affair; far larger, more closely printed, full of figure work, with most original diagrams, and containing the quintessence of many years of hard labour; first, in silent preparation of instruments, literary knowledge, and mechanical experience; then in two seasons' active work at the Great Pyramid itself; and lastly, in as long a period of arranging, theorising on, and printing the chief results of his almost innumerable measures in line and angle; interspersed with antiquarian disquisitions and Egyptological interpretations of a very advanced order indeed.

The battery of scientific measuring instruments which he took out with him was more extensive than anything before known in that region, and had been in large part prepared most studiously for the occasion by his own hands, with a mental acuteness and manual dexterity which cannot be too highly commended; while his subsequent use of the apparatus at the Pyramid, and his intuitive quickness in detecting minute errors in the work of the ancient Pyramid masons is clever, clever, oh! exceedingly clever.

Immense advantage therefore can hardly but accrue to our knowledge touching details of the Great

Pyramid from what he has been doing. It is indeed in many respects the very outcome with time which I have been longing for ever since my own work there in 1865.* And if my measures then were more numerous and detailed than those of most of my predecessors, it is exactly as it should be now, after sixteen years interval, when a smart young scientist, of easy, independent means, and no professional occupation, follows me in all my steps, even to living in a tomb on the Eastern side of the Pyramid hill; exactly, I say, as was to be both expected and desired, that his measures again should be far more numerous, more minute, and in some points more accurate than mine. Many of his figures, therefore, I accept at once with thanks, whether they are in addition to, or to be employed in place of, mine. And if there are others of them where I still prefer my own observations, discussions, or applications,—or those of other explorers between my time and his—I shall not attempt to defend them in particular in the present place; but endeavour to set before my readers, without the slightest personal prejudice, and for the cause's sake alone, how the Great Pyramid's for so long called “sacred and scientific theory” looks when examined into and tested by the light of these latest mensurations. Mensurations rather hastily assumed by some persons to be both absolutely perfect and utterly irrefutable, chiefly because they hope that their author has succeeded by such means in accomplishing his and their long cherished purpose, of both killing and bury-

* Published in 1867 in three volumes, entitled, “Life and Work at the Great Pyramid.” Douglas & Co., Edinburgh.

ing the said "sacred and scientific" theory for all future time.

For the fuller discovery of the ancient and absolute truth of this "Miracle in Stone"—as the primeval Great Pyramid has well been termed by the Rev. Dr. Seiss, Phil., U.S.—this latter feature and tendency of the new measuring authority is of inestimable advantage to others and the cause, whatever it may be ultimately to himself; and should by no means be lost sight of. Wherefore, although Mr. Flinders Petrie now bows to the community, *first*, as bearing the surname of his eminent father, Mr. William Petrie, the contributor in 1869 to the Rev. Dr. Mackay's "Facts and Dates" of an admirable compendium of Great Pyramid, earth, and sun commensurabilities, in close accordance with, and in some cases admirable development of, the "sacred and scientific" theory;* and *second*, as being

* "The above synopsis," wrote Dr. Mackay, in a note to his p. 135, "is by W. Petrie, who, in according to our request for it, desires us to say that his investigations and results are the consequence of his following the clue supplied by Professor C. Piazzi Smyth, after the latter had brought the light of modern science to bear more fully on the ideas originated by John Taylor of London, recognising the Holy Scriptures as being words from the Creator, irrespectively of human intellect, and yet in perfect harmony with all that is true in modern science." See "Life and Work at the Great Pyramid," three vols., with plates; also "Antiquity of Intellectual Man," one vol., with a diagram comparing the architectural remains, from the earliest example, onward through each century, in various countries, both by Prof. C. Piazzi Smyth. See also "Plates and Notes on Structures called Pyramids," one vol. fol., a valuable illustrated work by St. John Vincent Day, C.E., Glasgow. And "The Monumental History of Egypt," by William Osburn, an eminently trustworthy work. The germ of the three first being found in a work entitled, "The Great Pyramid, Why Was it Built, and Who Built It?" 1860 (second edition, 1864), by John Taylor, London.

himself the author of two treatises, one on "Inductive Metrology," and the other on "Stonehenge,"—it is to be regretted that he, Mr. F. P., did not also acknowledge himself to have been the author of a certain "Diagram of the Great Pyramid," published and sold in London in 1877. For thereby readers would have been prepared for much of the method of his present book; and would have appreciated how early Mr. F. P. had taken to certain theoretical views, leading him to assert in a most accentuated manner, that "The Great Pyramid's passages are *not* chronological, or not as taught in the so-called time-passage theory."

The spirit of that commencement on the Great Pyramid subject seems to have gone on intensifying in the young author's mind with the years that followed, until in his present book one looks in vain for any trace of respect for Scripture insight into early human history; though finding extraordinary veneration for almost anything inscribed by idolatrous Egyptians, and remarkable aptitude, too, for entering into such matter and discussing it on apparently equal terms with the highest of the modern Egyptologists themselves. Let us hasten on, however, now to see, in the first place, how the exterior of the Great Pyramid looks when illuminated by the light of this new authority, subjected only occasionally to a word of the very mildest doubt, or simplest question.

PART II.

Exterior of the Great Pyramid.

CHAPTER I.

SHAPE OF GREAT PYRAMID.

THE first point for practical knowledge touching any regular four-sided Pyramid is its shape, or its proportions in the only mode in which any such Pyramid abstractly, may differ from another. That most important quality is wrapped up in the expression for, or amount of, the one entirely dominant angle of each of its sides; and there John Taylor's deductions for the Great Pyramid, from Howard Vyse's measures, remains still untouched. For Mr. F. P. declares his own direct measures of it to give, with remarkable certainty, for the angle of rise of its sides $51^{\circ} 52' + 2'$; and this includes John Taylor's π angle, while it excludes the far different angles of all the other principal Pyramids of Egypt, so far as Mr. F. P. or anyone else has measured or re-measured them. There is not known, therefore, a single other Pyramid throughout Egypt which has the same angle of shape as the one, and only, Great Pyramid; and that an angle profound in its meaning, through pure mathematics and applied physics as well.

But Petrie claims that the Mejdum Pyramid has this π angle

Said angle was also constructed at the Great Pyra-

X mid with a degree of perfection and solidity in its "casing-stones" (long lost to view under heaps of rubbish, but recently in part uncovered again), which cannot fail to draw the respect of all well-educated and good scientific men; for, says Mr. F. P., fully confirming thereby the praise of Colonel Howard Vyse, nearly half-a-century ago, touching the very same stones:—

"Several measures were taken of the thickness of the joints of the casing-stones. The Eastern joint of the Northern casing-stones is on the top $\cdot020$, $\cdot002$, $\cdot045$ (of an inch only) wide; and on the face, $\cdot012$, $\cdot022$, $\cdot013$, and $\cdot014$ (of an inch) wide.* The next joint is, on the face, $\cdot011$ and $\cdot014$ wide. Hence the mean thickness of the joints there is $\cdot020$; and therefore the mean variation of the cutting of the stone from a straight line, and from a true square, is but $\cdot01$ in a length of 75 inches up the face, an amount of accuracy equal to most modern opticians' straight-edges of such a length. These joints, with an area of some 35 square feet each, were not only worked as finely as this, but cemented throughout. Though the stones were brought as close as $\frac{1}{500}$ inch, or, in fact, into contact, and the mean opening of the joint was but $\frac{1}{500}$ inch, yet the builders managed to fill the joint with cement, despite the great area of it, and the weight of the stone to be moved—some sixteen tons. To merely place such stones in exact contact at the sides, would be careful work; but to do so with cement in the joints seems almost impossible."

* Whenever Mr. F. P. introduces any numerals of linear measurement in his book, without stating the name of the unit or standard employed, he explains that inches are to be understood. This was a method introduced, I believe, by myself, in dealing with the Great Pyramid in 1865, and has since then been followed by so many writers, that I presume they must have found the inch a peculiarly suitable unit of measure for that building. Mr. Cole, of the Survey

Department of the Egyptian Government, in 1924-1925, used the French metric system in his survey-measurements of the Great Pyramid's base. See Paper 39 of the Survey Department.

In fact, there never were such exemplary casing-stones as these of the Great Pyramid, so superbly large, and so marvellously accurate, erected anywhere else, whether in Egypt or in any other land, either before or since; while for anyone to contrast them, the earliest positively known examples, with the puny, perishing casing-stones, or, in some instances, mere sun-dried bricks, of any of the subsequent Egyptian Pyramids, miserably executed at last, must cut most poignantly into the pride of all the advocates of progressive development by the forces of man alone, among the rationalistic, and generally natural-history, philosophers of our day.

X These ^{two} casing-stones, together with 17 others, ^{all in one continuous row} (19 in all) were again uncovered by Mr. L. D. Covington during the last fortnight of May, 1909. Five of these stones (~~to~~ the extreme West) are much broken; but those previously uncovered by Col. Howard Vyse, still preserve their fine even appearance.

XX I took some photographs of large casing-stones at the foot of one of the Pyramids of Sakhara, in July, 1909. They seem well made, but I did not examine them closely. Morton Edgar.

CHAPTER II.

BASE SIZE OF GREAT PYRAMID.

HERE Mr. F. P. has something very new and unexpected; for he brings out two widely diverse base-side lengths, each of which requires to be treated as a separate and distinct existency.

They are, in fact, so very different one from the other, as to seem to establish that there were intended to be two ways or modes of judging of the size and perhaps the symbolism of the monument. The shorter of these two lengths is far shorter than anything named in modern times, being only 9,069 inches long (p. 39), and has been obtained by measuring the Pyramid in a different manner to anyone else—viz., by referring it to the surface of a certain hitherto rather problematic bit of raised pavement, openly seen as yet only on a small portion of the North side. But similarly elevated portions, near the centres of the other sides, having been apparently sounded by sinking temporary narrow and dangerous* holes down through the enormous rubbish heaps lying now, and for a thousand years past, upon these sides,—their level has been carried by calculation round the whole Pyramid,

* On the rubbish heap of the South side the hole was so particularly dangerous, from the looseness of the material it was carried through, and the frequent falling in of tons of it, that "no one but negroes would work in it at last."

The level Platform exists on all four sides of the Great Pyramid, as is now fully established - I had all the debris cleared from both N. & S. base sides in 1925-1926 & 1938. W. G. Gagar.

X This platform, under the casing stones, appears to have run round the four sides of the Pyramid at a constant thickness namely, 20.8 inches. The platform can be seen plainly at the N.E. corner, and in March 1912 I made a little excavation with at the N.W. corner and there found the platform (about the same thickness of 20.8). North.

✕. In 1925-1926, when I had all four sockets cleared of debris I found that, while the N.E. & S.E. sockets are cut in the rock, the S.W. socket is not cut in the rock, but in large inset-stones (4 of them), and the N.W. socket is cut partly in rock (mostly in rock) & partly in inset-stones.
 Chap. II.] *N.E.* THE GREAT PYRAMID. 23

though manifestly high above the corners, or ends of each actual base-side. And the inevitable consequence of measuring a Pyramid with sloping flanks on a newly-assumed higher level, is, of course, to cut further into its figure, and bring out thereby a shorter so-called base-side length than those who had always previously, and for very good reasons, measured it at a lower level.

Now, such a lower level is most authoritatively offered at the Great Pyramid by its four corner-sockets sunk into the rock; and ever since John Taylor's happy identification of the verse in Job xxxviii. 6 (aided by the marginal translation) with the building of the Great Pyramid, and its sockets made to sink, or the foundations fastened, in or upon rock—the majority of explorers have been firm in maintaining that the actual, and still socket-defined, corners of the base in the solid, living, foundational rock bearing the *✕* monument,—are the ancient architect's intended fiducial points for defining the true size, or full base-side measure, of his grand work of all the ages.

Indeed, a friend who happily assisted at some of the recent uncovering work at the middle of the North side has voluntarily written to me:—"The pavement is there; but there seemed to me to be no obligation to measure the base-side length, for the determination of the whole measurement of the building, in the obtuse and most untoward angles of its (the pavement's) sides meeting those of the Pyramid. It appeared to me that the real fiducial points were in the corner casing-stones, once fitted into the socket-holes, but now gone."

Measuring, therefore, on the said empty socket-holes, for *they* fortunately are not gone, and are not stamped out of existence yet, though most lamentably left for years uncovered and to be trodden under foot by visitors of every nation—measuring, I say, upon them, but always under extreme and gratuitous practical difficulties, different persons have obtained during the present century varied, though yet converging, quantities for the base-side length—*i.e.*, anywhere between 9,110 and 9,168 inches; theorists generally using 9,140 inches, the result of a weighted mean of the individual measures. These, then, are the figures to be compared with the larger of the two base-sides arrived at by Mr. F. P.; and he confirms the honesty of his predecessors, though claiming greater accuracy, by arriving at a length, for the mean of the four sides of the monument, numbering 9,126 British inches.

Now, as to his first, or very small, Base-side length, which is equally for the mean of the four sides of the Pyramid, but measuring them at a higher level: suppose for the mere temporary and rather trifling purpose of comparison in size with all other known Egyptian Pyramids, we take that shortest possible length that any one could attribute to the Great Pyramid—*viz.*,
 * 9,069 British inches. Then, as the second Pyramid only claims a base-side length of 8,475 inches, as measured by Mr. F. P. himself (p. 201), and all other known Pyramids, by all the measurers, fall rapidly below that, and even down to a few hundred inches only at last—the Great Pyramid is left unquestionably for size the *facile princeps* of all human architectural creations of that kind.

* Should be:—

by	9084	32558	8	Pyr. ins.
theory	9093	41900		Brit. ins.
me.				

But for grander comparisons of the Great Pyramid with nature, and to arrive at the primeval architect's highest ideal, or possibly inspired wisdom—*i.e.*, thoughts above his thoughts implanted into his mind for a purpose unknown to him—we can take no other than the Scripture-justified, socket-defined, base-side length; and that, according to Mr. F. P., is 9,126, and not 9,140, British inches long. How then does such new length answer to the theory commenced by John Taylor?

$$\begin{array}{r} 9140 \\ 9126 \\ \hline 14 \end{array}$$

That theory for the last 15 years has claimed three illustrative commensurabilities in nature—viz., (1) the number of days in a year, in terms of an evenly earth-commensurable standard of length, the sacred cubit, equal to one ten-millionth of the earth's semi-axis of rotation; (2) the elder William Petrie's magnificent theorem of the Pyramid-shewn mean distance of the sun from the earth; and (3), the double-crossing diagonal representation of that Grand Cycle, or clock of ages for the history of man upon earth, the precession of the equinoxes, in terms of a Pyramid inch to a year.

Not that any person held that one and the same exact quantity, number, or length for the base-side could express each and every one of these three most different things in the cosmos of God perfectly; and for all the ages of time past, present, and future. But that, for representing the Earth, during the present period of the existence of Adamic man upon its surface, they converged so nearly, so near even to mixing up with the unavoidable errors of modern measurement, as in conjunction with other features of the

building, to lead any properly-regulated and highly-instructed mind to believe that the triple indication was intended. And might also have been adapted to each case, and to almost any exactitude, by certain small additions to, or subtractions from, the one grand, mean, and over-all base-side length of 9,126, or 9,140 inches. *9,140 Brit. ins. is base-length if calculated as on the deepest floor level of the sockets, namely, the S.E. corner of the S.E. socket.*

Now there *are* precisely such subsidiary differences, M.E. and such indicated small quantities, or as it were private markings, at the place, well attested by all recent explorers; and which no Egyptologist has yet explained otherwise, between one socket and another, in both shape, size, level, and tool marks. Differences, too, they are, quite large enough in themselves to cover all the errors which modern science, with its own very varying results, never absolutely agreeing together for anything practical, might be inclined to suggest in the Pyramid numbers for each of the three presentations.

Whether such a use of these supplementary little features was really intended by the supposed divinely-inspired architect, in a primeval age, it is out of our power to ascertain very directly now. But the following illustration may be picked up on p. 206 of Mr. F. P.'s own book, showing admirably the very striking practical power of these markings to effect such adaptations. For there we read that, whereas the Royal Engineers, in 1874, did measure the South side of the socket-defined base-side length of the Great Pyramid, and published it as 9,140 inches long, he, venturing to consider that the socket-mark they measured from was not the right socket-mark for that purpose, and having chosen another for himself, sub-

The W. limit of the S. W. Socket is defined by a line (or rather, a ridge), which is on the same level as the general trimmed rock level under the Platform on which the casing stones rest. Petrie is right here.
m.E.

See 5th Ed. "Our Inheritance," page 315-316

tracted 17.5 inches from their measure, and republishes it as approximating to his own, or being 9122.5 inches only; while, if they were to assume the power of applying the 17.5 to his 9,126, there would be a base-side length of 9143.5 British-inches.

$$\begin{array}{r} 9122.5 \\ 17.5- \\ \hline 9140.0 \end{array}$$

So that here, also, there is nothing that need be at this time altered or erased from the older accounts, giving mainly 9,140 British, or 9,131 Pyramid-inches, together with the diverse socket corrections, for the base-side length of the Great Pyramid. While explanatory of those socket corrections, something further will be found, from a most independent and unbiassed source—viz., the Rev. H. G. Wood's (Sharon, Pennsylvania, U.S.) excellent paper on that subject, in our Appendix, Part 3.

For the present, therefore, we may readily excuse, in a young author, a little shortcoming in the correct weighing, and full estimation of the effects, as well as the intentions, of those minute and most recondite, ancient, details, in reward for two, if not three, excellent things which he, Mr. F. P., has performed, touching a different class of questions at the Great Pyramid—questions too most violently disputed hitherto by both Egyptologists and rationalists, and touching not only its age and topographical situation with reference to other Egyptian monuments; but also its powers for chronicling the rate of change in the position of the axis of the world, as well.

CHAPTER III.

RELATIVE AGE OF GREAT PYRAMID, COMPARED WITH
ALL OTHER EGYPTIAN REMAINS IN ITS NEIGHBOURHOOD.

TO all those who hold John Taylor's Great Pyramid views, and have recognised in the "sudden, as well as early, appearance" in history of the best-built and mightiest building throughout Egypt and the world, the phenomenon of a something quite different from the ordinary unassisted course of mere human progressive development,—a severe blow and dire discouragement was sought to be administered a few years ago by M. Mariette Bey, the French Minister of Antiquities in Cairo, and the Egyptologists. For they announced triumphantly the discovery of a most ancient hieroglyphic-inscribed stone-tablet on the Pyramid-hill, setting forth in indubitable terms, that that biggest of idols, the Sphinx, and some other buildings near it, were all of them far older than the Great Pyramid; and that the latter grand building, in spite of its so long known blameless walls and pure architecture, was yet devoted in its origin, by those who were its seniors, masters, and originators, to the idolatrous worship of Isis, Osiris, Khem, Bast, and all the rankest profanity and oppositions to the God of Israel, ever practised by the servants of Pharaoh, and

hitherto supposed to have been invented only in the latter days of ancient Egypt.

It was allowed by some that the story was rather too *bizarre* to be entirely trusted; but the opportunity could not be lost. So the disturbing tablet was set up with honour in the Khedive's Museum at Boolak; and influenced, doubtless, the minds of many European visitors against both the antiquity of the Great Pyramid and the chronology of the Bible.

But on his pp. 156-7, Mr. F. P. relates that, by aid of further excavations on the Pyramid-hill, at the same isolated, petty, ruined little building, where the first inscription was found, as part of the lining of the walls of an interior room, other stones of the same set have since then been found, and prove, on rigid analysis, that they were one and all the work of King Petukhann, of the very late, or Twenty-first Dynasty; and that one only came into existence some 1,500 years, at least, after the building, completion, and sealing up of the Great Pyramid in the time of the Fourth Dynasty, when Cheops was king. Mr. F. P. further declares that these wretched stones are of no authority for any earlier time than their own very late period; that no trace of a Sphinx in statuary, tablets, or inscriptions, is to be found in any of the genuine remains of the old Empire of Egypt, or on anything Egyptian, until the later Hyksos period, say of the Tenth or Eleventh Dynasties; and that these most mischievous Boolak Museum inscriptions are comparatively very modern concocted stories, inventions, novels, or romances; wretchedly scratched into, or merely scribbled on stone surfaces; "a degradation," he positively says;

“of the decadence of the twentieth,” for the mere mural decoration, (something like wall-paper hangings) —of a small temple of the usurping Twenty-first Dynasty.

I had myself arrived at, and published* a nearly similar conclusion as to the worthlessness and posthumous character of the first Boolak Museum inscribed stone; but this more extensive and learned condemnation of both it and its history by an Egyptologist, will be far more convincing, it is to be hoped, to the world at large.

Mr. F. P. does indeed also most frankly admit that when Cheops (Khufu, or Shofu), of the Fourth Dynasty, began his unequalled monument of “the Great Pyramid,” the hill of Gizeh was bare of, and unoccupied by, any building. He was the first comer, therefore, and in that capacity had free choice of that hill’s top; and found it the most striking site for a grand monument presented by all that line of country for leagues and leagues along the Western side of Egypt. This quality, too, must have been more especially the case for the Northern precipitous brink of the hill, so very (almost dangerously) close to which Khufu chose to lay the foundations of his enormous structure.

All the other, and subsequent, Gizeh Pyramids, temples, and tombs had, therefore, necessarily to be built to the Southward of his Northernmost one; a circumstance which has led many writers to expatiate

* “Our Inheritance in the Great Pyramid.” Fourth Edition, pp. 508-512.

See page 206
in Petrie's
works.

on Northerly position indicating superior age amongst Egyptian Pyramids.

One notable exception, indeed, was occasionally cited to this theory, in that the so-called Pyramid of Abu Roash was N. N.-West of the Great Pyramid by a good many miles.

That further Northing was a fact most patent to everybody, for something like a commencement of a Pyramid was certainly visible there. But if only a commencement, only a mere flat area of building-stones, how could such a surface be called, either logically, mechanically, or mathematically, a "Pyramid"? argued some stiff reasoners; who, therefore, would not allow that it interfered in any way with the long-finished Great Pyramid, being the Northernmost and most ancient of all the real, architectural, Pyramids of Egypt.

But Mr. F. P. ingeniously and creditably removes the ground for that argument by further facts; and yet brings them all to bear finally, and still more powerfully, towards the same end as before, in this rather startling manner.

By personal visit to, and examination of, the ruins (or remnants, rather), he deduces that the Abu Roash Pyramid must have been in its own day completely finished in full pyramidal figure; cased, too, with granite in the most expensive manner, and furnished inside with sarcophagus, mummy, and diorite statue of its king. But he was one, who was not only later than Cheops of the Great Pyramid, but subsequent even to King Mencheres, of the third and Southernmost Pyramid of Gizeh. He was, in fact, King Men-ra

and who, objecting to build for himself a fourth pyramid at Gizeh—because, if in the line continued of the first, second, and third, his predecessors, it would have been off the hill-top Southward—struck out in a totally different quarter, or on the high land in the North-West, now called by the Arabs, Abu Roash.

But it proved somehow to be the worst place that ever man chose to build his would-be immortalising monument upon; as, from a very early period in Egyptian history, that unhappy building became the object of most inveterate attack and despoil to the Egyptians themselves (see Mr. F. P.'s pp. 140-142, 151, 152). The granite casing, he says, was stripped off, broken to pieces, and carried away; the core masonry pulled to bits and removed; the carefully lined chambers, the granite sarcophagus, and the diorite statue, were all turned out into the open. "Everything," Mr. F. P. more particularly adds, "has been smashed with the greatest care. The wrought granite has been mainly burnt and powdered, and the surfaces of the statue were bruised to pieces before it was broken up, with a vehemence of destruction, and patient, hard-working vengeance" which it is difficult to account for.

Through the times of the Ptolemies the wrecking went on, and is even being prosecuted still "at the rate of 300 camel-loads a day during the season." Until, of an ancient—though not the most ancient—Egyptian Pyramid, more than 300 feet broad at the base, almost the entire substance has been removed. And in a very few years more the Great Pyramid on its own hill at Gizeh will look forth over the expanse

of the Delta Northward, North-westward, and North-eastward, without the shade of a rival, even of any long subsequent age, to dispute its pre-eminence in that world's surface central position it fills so well and has filled so long.*

Some persons have indeed attempted from time to time to undervalue the Great Pyramid as any object of importance in itself alone, and have tried to connect it Southward and backward from its own place, with all the posse of Egyptian and certainly idolater-built Pyramids behind it. But Mr. F. P. has been privileged to show (p. 125) by his most careful measures and grand triangulation that the position, angles and distances of these other Pyramids have no regularity or exact relations. And further, that "from the nature and appearance of the ground, and the irregularity of the peribolus walls, it would not seem likely that any connection had been planned."

* "Our Inheritance in the Great Pyramid," edition iv., pp. 72—84.

CHAPTER IV.

CHANGE IN THE POSITION OF THE WORLD'S AXIS OF
ROTATION SINCE THE GREAT PYRAMID WAS FOUNDED.

BUT with respect to the astronomical emplacement of the architecture of each principal Pyramid in itself alone, a most remarkable result is brought out.

I had already set forth that there is a defalcation in the latitude of the Great Pyramid, as required by theory of old, and given by observations now.* Such, too, that it would imply a change in the same direction, and not greater in amount with the time elapsed, than a certain minute alteration of a not very clearly understood, or as yet generally acknowledged kind, that must have been going on during the last hundred years in all Europe; though certainly observed and instrumentally recorded only at the Royal Observatory, Greenwich.

Also that there is an error of something like 5 minutes of a degree in the orientation of both the socket-lines, and the vertical passage-planes of the Great Pyramid, which may have its explanation in the same way, by a slow movement of the axis of rotation of the earth within itself.

But the idea was condemned fifteen years ago by the great mathematical physicists of the time, who

* "Our Inheritance in the Great Pyramid," edition iv. pp. 72—84.

had proved, society said, the fixity of the earth's axis of rotation within its own substance "to be equal to the stiffness of a column of hammered steel." While other rationalistic scientists pointed with delight to the demonstration they said I had myself furnished—that the Great Pyramid hill not being in the required latitude, divine inspiration could not have had any hand in planning and procuring the erection of that building. For God, added they very confidently, would have taken care to provide a hill in exactly the right place, and not have been content to use one which was merely the nearest to it.

Yet now Mr. Flinders Petrie remarkably confirms and extends my view, that though the hill is not in the required latitude now, by $1' 9''$, nor the building correctly oriented by full $5'$ of angle, yet both features may have been true and correct at the time of the Pyramid's foundation, to at least $12''$ of space, or a smaller quantity than is usually reckoned visible to the unassisted eye. And he further even ventures (p. 127) to approximately compute the force and the work of unbalanced ocean currents which are in action at this very moment, and finds them sufficient to produce the effects observed.

Wherefore here, through means of the Great Pyramid and the modern scientific examinations of it—prompted by John Taylor's theory of its truly sacred character in Hebrew and Christian light—is brought into view a slow movement of the earth's axis of rotation, which modern knowledge ought to have discovered of itself long ago, and will have very soon to make some remarkable confessions about.

Enough, however, at present of the *exterior* of this most unique Great Pyramid building; for its still more important *interior*, under the same new and supposed destructive illumination by a new measurer, awaits us.

PART III.

Interior of the Great Pyramid.

CHAPTER I.

BEARINGS OF THE BASE-SIDE THEREON.

ON changing from our late topic of the *exterior*, to the new one of the *interior*, of the Great Pyramid, much praise is due to Mr. Flinders Petrie for his grand handling of the measures made by himself, and his apparently accurate connections of the ancient outside, restored, with the existing inside of the building produced so as to meet it. Bearing in mind, however, that he is tacitly assuming the upper surface of the central bit of pavement on the North side, and not the socket-corners of the base, as the one and only level to be always referred to. *Petrie, of course was right in taking the surface of the Platform, which is a distinct piece of masonry from the pavement.*

For when he does that, he of course brings out, in combination with the admitted angle of the exterior, a different height and different weight for the Pyramid from what his predecessors have done. Besides giving rise to plenty of anomalies amongst details hitherto described as coincidences, between measures of length or breadth inside, against others outside the Pyramid viewed in the light of certain important ratios.

Hence it is quite needless to follow him through the numerous cases in the latter part of his book, where

the errors upon errors he charges on the theorists who have preceded him, are largely explained by his using a different base-side length to theirs, and one which does not tell the whole facts of the Pyramid. It would, therefore, have been far more satisfactory for his character if he had given the results of each equation, not only for his extra short 9,069, but also for his 9,126 inch base-side, as well as perhaps for the 9,140 inch, both of the Royal Engineers which he erased, and of previous writers whom he is trying to refute.

Something of this kind of more than single foundation, too, is one of the first reactions which we may learn, and he has learnt from his own measures, of the interior on the exterior of the Great Pyramid. For on his p. 221 he allows, agreeably with Mr. James Simpson's and my own representations, that there are *two* heights for the King's Chamber—one, the wall height, and the other the height between the ceiling and the floor, different from the other by about five inches, on account of the floor being raised up to that amount inside the granite walls above their bases. For that method of building Mr. F. P. admits "some reasons must have existed;" and he very commendably endeavours to find, as Mr. James Simpson did before him, a geometrical ideal and intellectual justification for each of them.

The matters, however, more immediately to be discussed by us will not be sensibly influenced from the exclusive adoption, by anyone, of this or that particular base-side length.

CHAPTER II.

UNFINISHED SUBTERRANEAN CHAMBER ANTAGONISES
EGYPTOLOGICAL THEORIES OF MODERN TIMES.

FIRST, for instance, in this department comes that most strange fact, so subversive of Professor Lepsius' and other Egyptologists' favourite "law of Pyramid building"—viz., that in place of the Subterranean Chamber of the Great Pyramid being, as invariably with the other subsequent and perfectly Egyptian structures of that kind, the first thing completed at the building of a Pyramid, and forming the very object for the honourable covering of which, as a place of sepulture, the whole edifice was to be afterwards erected by slow additions above ground, year after year; said Subterranean Chamber at the Great Pyramid was never even attempted to be finished or brought into any condition for possible use, or for lodging a sarcophagus in, even for a day or an hour.

The vast size, moreover, of that unique monument, the Great Pyramid, is shown by Mr. Flinders Petrie, by aid of a new set of arguments, Egyptological mainly and specially valuable to the Taylor anti-theory on that account, to have been planned and laid out of that full size, or according to him 9,126 inches from socket to socket, from the first: and by no means

to have been a result of slow accretion upon a small nucleus of a dozen or two of stones, and dependent for its final agglomerated size on the accidental duration of life of a single individual, according to the so-called "law," imagined for the ancients by a few modern doctrinaires.

987
3037 1/2
4024 1/2

CHAPTER III.

THE SYSTEM OF PASSAGES EQUALLY ANTAGONISES THEM.

BUT the Sloping Passage, some 4,000 and more inches long, leading down to that only commenced, never finished, subterranean room, was beautifully built at its upper, outer, end. Furnished, too, at the very top, and flush with the outside surface of the Pyramid with a closely-fitting stone door hung on horizontal stone pivots, or Strabo's movable stone; and cut off from the rest of the interior, and its peculiar ascending system of Passages, by solid-looking masonry, which told no secrets to any man or nation until three thousand years had passed away.

987
3037 1/2
345 3/4
4370 1/4

For then, in the hearing of Caliph Al Mamun's workmen, who were rudely breaking a way for themselves through the limestone core-masonry of the building, a prism-shaped stone fell out of the roof of the descending Entrance Passage (which was much closer to them at that moment than they had been aware of) and disclosed, when they rushed in,—that another Passage *ascended* into the interior from that point; but had its lower end plugged with, to them, and to all other men also since them, immovable blocks of granite.

All this, however, is the old, old story of John Taylor's Great Pyramid theory, except the neat sup-

plying of the door in the casing by Mr. Flinders Petrie; and which is not only likely enough, but is probably—from its having fitted close and got jammed after the days of the Romans—the very reason why the Mohammedans, under the Eastern Caliph, did not attempt to enter the Pyramid in the right way by the “door,” but broke in through the solid masonry below and on one side, like the thieves and robbers they were. Breaking their violent way also round the granite blocks, still to this day plugging the lower end of the Ascending Passage; and then, whether there were many, or few, more plug-stones above those we still see in place, these fanatics got rid of them somehow or other, as by breaking and extraction, until they found the way clear before them up through the rest of that white-lined Passage. Thence, on the level of its upper opening, they rushed forward to the Queen’s Chamber; next, by the still further Ascending Grand Gallery, to the Ante-Chamber; and then to the final King’s Chamber of red granite, with the Coffin of the same material as its only contents, notwithstanding the noble size and finish of the apartment.

The general structure, closeness, and regularity of the joints in both the King’s and the white-stoned Queen’s Chambers, frequently comes in for Mr. Flinders Petrie’s high praise; though the building of the passages between, (Mr. Waynman Dixon’s girdle-stones of the first Ascending Passage excepted) is blamed for much rough and bad work. Some of it, indeed, as at the North end of the Ante-Chamber, being even declared so bad, as if it had been to show how badly, instead of how well, as with the casing-stones,

*The masonry joints of the walls and Ramps
of the Grand Gallery are also very close.
(16 March 1912. - M.E.)*

(p. 20) Great Pyramid builders could build. While the Well leading down from the North-west corner of the Grand Gallery, through the Grotto, to the lower subterranean part of the long sloping Entrance Passage, is stigmatised as very poor performance indeed.

But the whole of these Ascending Passages and Chambers are allowed by Mr. Flinders Petrie to form a system, the like of which is known to exist nowhere else. That is, nowhere else adopted into a Pyramid; for the peculiar "trial passages" cut into the rock North-east of the Great Pyramid, duly mentioned by me and first pictured by Colonel Howard Vyse, are recognised by him to be a reality; and an astonishingly close record, too, of breadths and transverse heights of both the Passages, the Grand Gallery, and its ramps; in everything, in fact, except one—namely, the vertical shaft between the Ascending and Descending systems of inclined ways; and why that vertical shaft is there, no Egyptologist has yet been able to explain.

So giving up the more difficult task of interpreting that primeval monumentalisation of so much that is rich and rare in noble thought, on the John Taylor hypothesis,—our new author proceeds to the far easier task of finding fault with some of my mensurations in 1865.

CHAPTER IV.

ASSERTED ERRORS IN C. P. S.'S GREAT PYRAMID PASSAGE MEASURES.

MY *angular* measures of these remarkable constructions, indeed, are usually left very nearly intact; but the linear measures are declared to have a small, slowly-increasing error, due to measuring with loose rods on the sloping floor surface of dark passages; while at one particular place in them it is asserted my *i.e., the rods must have slipped, and a length really of 2,173 floor-measurement - between the N. wall of gallery, to* inches been mistakenly reported as 2,170.

Though a most useful and in itself salutary correction, that new figure is fortunately of no subvertive *lies on the walls of the Desc. Pass.* influence to anything theoretically important; especially as I had already set forth in print, that the 2,170 looked like an accidental coincidence with a certain other 2,170 number, and was closer than warranted by the circumstances under which the measuring was performed; while the 2,173 may now be just as readily adopted as the 2,170, for any purpose I have used the latter for.

And if it is further asserted in the new book that the Grand Gallery of the Pyramid is really 1883.6, and not as I had made it, 1882.8, British inches long, I am equally ready to accept that correction also. For while whoever likes may look on 1882.8 as

enormously and even shamefully erroneous, he must at least confess it far less discrepant from the new result, than the three mensurations previous to mine; as they gave out 1,896, 1,872, and 1,824 of the same inch units. Indeed the whole case may serve most usefully to show, without any abstruse mathematics, that the world is now getting very close to the true size of the Great Pyramid, both in its whole and its parts. And I find myself most happily relieved from too great a weight of responsibility for any one person to bear; viz., to be the one and only measurer who has hitherto published the numbers for certain parts of the Great Pyramid;—on which numbers so many ingenious persons in every Anglo-Saxon country, colony, or community throughout the world have been framing theories during the last eighteen years, and relying too implicitly, as I have so often had to tell them, on my figures being exact to a degree far beyond anything that I had ever claimed or believed.

$$\begin{array}{rcl}
 \text{From Autumn } 2140 \text{ B.C. to Spring } 33 \text{ A.D.} & = & 2171\frac{1}{2} \text{ years} \\
 \rightarrow & = & 2139\frac{1}{4} \\
 & = & 32\frac{1}{4}
 \end{array}$$

$$\begin{array}{r}
 2173 \text{ B} \\
 = 2171 \text{ P.M.}
 \end{array}$$

$$\begin{array}{r}
 1881.598473 \\
 + 1.881598 \\
 + 1881 \\
 \hline
 1883.481955 \\
 + 1883.6 \text{ petrie} \\
 \hline
 \text{diff} = 118044
 \end{array}$$

CHAPTER V.

THE SAME TOUCHING THE KING'S CHAMBER MEASURES.

LET us now proceed to the chief work of the whole interior—*viz.*, the granite King's Chamber, as a mensuration test. What is the length of that most notable Chamber?

“Very various,” Mr. Flinders Petrie might probably answer; and from a remarkable plate (xiii. and pages 79 and 80), wherein he shows the Chamber's errors (though largely produced by mediæval earth-quake shocks, and a settling of the ground), concentrated on a plan of his own, multiplied 50 times, and looking, therefore, horrible, he would make its length at the top, close under the ceiling = 412·01; and at the floor 412·66; I having made it in 1865, at a few inches above the floor, = 412·54 British inches.

Wherefore, if the room was only intended for funereal or tombic purposes, that was coming closer than there was any practical occasion for.

But if it was also intended by the architect thereby to indicate the size of the exterior, socket-defined, base-side of the whole building by the theorem based on the John Taylor system of explanation (see pp. 198—200 and plate xxi. of “Our Inheritance in the Great Pyramid,” 4th edition), the measures are still close enough. For the required quantities are within the limits given by Mr. F. P. so nicely, that while we

find the 9,140 socket-defined length usefully and practically symbolised near the floor, and shorter ones higher up; his extra short 9,069 length at his level of the central piece of pavement produced sideways and above the actual corners, may be sought for up towards the nearly impossible ceiling. But will only be found by producing the converging lines of the walls both above the ceiling, and into the dark lofts of the so-called chambers of construction. In fact it is not acknowledged by the open symbolisms of that most authoritative "King's Chamber."

CHAPTER VI.

THE COFFER MEASURES.

THE grand attack, however, on behalf of Egyptology and its exclusively tombic associations of idolatrous kings where a Pyramid is concerned, is delivered by the new measurer on the "Coffer."

That mere sarcophagus in the eyes of Egyptologists was, according to John Taylor, the type of a primitive mensuration vessel, of whose cubic contents the old Anglo-Saxon *quarter* was anciently the *fourth* part.

And though it has some slight, and easy to be eliminated by calculation, cuttings into its original or full geometrical shape, for apparently burial purposes; and may even have been used, whether directly or symbolically, for and as such, in the mediæval times of the Egyptian people, it is yet a very remarkable mensuration-looking vessel. This quality arising not only from its figure and the proportions of its parts, but also from the absence of all inscription, figuring, or ornaments. And now we further learn something of the striking manner in which, at its most remote age, long before written history, it was positively sawed out of extra hard, dense, and syenitic granite, by huge bronze saws more than eight feet long, armed along their cutting edges with teeth of sapphires, according to the exceedingly ingenious speculations of Mr. Flinders

Petrie; and the interior drilled out by similarly jewelled tubular drills, three feet long, and worked with stupendous power.

He set to work, therefore, on a more particularly *mensuration critique* with zeal extraordinary; making off-set measures from no less than "388 points on the outside to 281 on the inside, or 669 in all, besides taking 281 caliper measures" (p. 84).

$$\begin{array}{r} 669 \\ 281 \\ \hline 950 \end{array}$$

Magnificently accurate results would this have given had it been performed 4,000 years ago, on the then whole and entire vessel. But it has not the power, and Mr. Flinders Petrie's description does by no means enable his readers, to realise the fearful amount of the substance of the vessel which has been broken out and carried away at some past time or times, long before he came to measure it.

He may be the best measurer that has ever appeared at the Great Pyramid, and his measures may, or as he not obscurely informs the world, must be, the only ones to be employed in future Pyramid investigations, not only of a single isolated block such as the Coffin, but of congeries of blocks, most of which are now cracked, broken, or separated by excessive pressure, or failing foundation, or seismic violence, or earth changes out of the precise relations in which they once stood to each other. And yet some persons on the other side, with these facts before them, will go on maintaining that where much material of an ancient and otherwise unknown form has been long since removed, lost is lost, and gone is gone so completely that no modern and merely mechanical measuring process, applied with ever so much microscopic minutiae

of care, to what remains, can pretend to be perfectly capable of exactly restoring it all.

Such, however, as Mr. Flinders Petrie found and measured and then added to by calculation, or assumption for the lost parts, he gives thus for the "Coffer" tested as a mensuration vessel (p. 90):—

"By employing mean planes, contents = 72,030; solid bulk of the containing sides and bottom = 70,500; volume over all, 142,530, or

"By caliper results, the bulk is $\frac{1}{580}$ more and the contents probably $\frac{1}{1000}$ less; hence the quantities would be:

"Contents 71,960; solid bulk 70,630; volume over all, 142,590 British cubic inches."

Now as the half-volume of the whole block, or outside of the Coffer, is from the last of the above statements = 71,295 British cubic inches, there evidently might be theoretically a hollow space cut out of said block equal to that number of inches, while it should leave exactly the same number of them in the substance of the vessel's sides and bottom. But if any modern gentleman even of university education or of secret Free Masonry craft, will try really to cut out such a hollow, from just such a sized block of hardest granite as the 142,590 Coffer block once was, the *probabilities* are that he will not succeed in accomplishing his task with perfect exactitude; while, if he thus makes the hollow too large, the *certainty* is, that the remaining substance of the vessel will be too small.

Something, too, of that very kind appears to have actually occurred in this case, not only from the inside hollow being declared by Mr. Flinders Petrie to be 71,960, against the remaining substance only 70,630;

but from his having discovered traces of the vertical drills employed having gone awry, and cut out more of the interior substance than they ought to have done. His two diverse numeral quantities being thus rather curiously like the two values of the chaldron, or four quarters of corn, old Anglo-Saxon and British, as they are given by John Taylor in his Pyramid book for, first the earliest, and then the latest, certifiable Royal authority in this land—viz., Henry III. and George IV., seeing that in the former's reign four quarters measured legally 71,680, and in the latter's 70,982 cubic British inches.

That double and diverging result, however, is not enough for the present enquiry, seeing that neither one nor other of those kings, nor the mean between them is early enough in the absolute history of the human race to represent the Anglo-Saxon primitive institutions on their first, and by some supposed Divinely assisted, immigration into England from their remote places of Eastern origin and travel. While on the John Taylor theory, duly developed by reference both to our Planet Earth's now known size and density, combined with what has already been ascertained of Great Pyramid methods and numeration, the proper cubic contents for the Coffin have been for several years past taken to be * = 71,250 Pyramid, = 71,464 British, cubic inches.

How then is this larger quantity than Mr. Flinders Petrie's mean = 71,295 of the latter units to be obtained from the Coffin, as he measured it; and for bulk of material, as well as contents?

The answer is,—by duly attending to the different

* "Our Inheritance in the Great Pyramid." Fourth Edition, p. 180.

lengths and breadths, both inside and outside, at different levels. Or simply by dealing with the Coffers as we have already done with the King's Chamber containing it; and as I have also already had to do in the far easier matter of *linear* measure, with the grand example of an almost perfect specimen of a casing-stone of the Great Pyramid, generously presented to me by Mr. Waynman Dixon several years ago.*

That method may be described as the principle of limits; or by not adopting exclusively either the mean measures or the one or other extreme measures at the top or at the bottom of the Coffer; the upper one being certainly greater, and the lower one certainly less, than the theoretical quantity indicated; but by measuring at a certain distance up or down the nearly straight sides between those limits of excess, and defect. For there, the absolutely true quantity does, and must, exist; and no errors of a faithful, or treacheries of an unbelieving and traitorous, workman can possibly prevent it.

Hence by measuring the interior of the Coffer, as it stands on the floor of the King's Chamber, at a rather lower level than the mean, we should find it represent a cubical content reduced from 71,960 to 71,464; and by measuring the exterior rather higher than its mean horizontal plane, we should find it represent a larger block, or one whose half size would be increased from 71,295 up to the same 71,464. *Brit. ins*

While, if it be objected by anyone that such an arrangement or principle, though effected by such

* "Our Inheritance in the Great Pyramid." Fourth Edition, p. 29.

small amounts of displacement of surface for the large sides of the Coffin as would be quite unnoticed by ordinary visitors, may prevent the Coffin being actually used as a perfect vessel for measuring corn or any other commodity in a practical manner, and will leave it only as a type or symbol of the right size of measure to those duly instructed how to view it; it may be answered, that such a principle is entirely agreeable to what has long since been established for the astronomy of the Entrance Passage of the whole Great Pyramid. *Viz.*, that it was by no means intended by its architect to be a working observatory, but a silent and secure monumentalization of certain important astronomical facts of an early period, for the prophetic instruction, and a people's encouraging references after subversion of kingdoms, and death of languages,—of another age and another concatenation of human affairs, destined to come long after it.

CHAPTER VII.

ANTE-CHAMBER MEASURES.

WITH similar approximating results we might go over all these new measures of the Ante-Chamber also; for there, the theoretical quantities, as hitherto stated for the John Taylor theory, seem always to be found among the lesser and greater measures which Mr. F. Petrie gets off the ruined, and dislocated, forms. Though instead of accepting them as in any way confirmatory thereof—or, as I have so particularly set forth in “Our Inheritance,” fourth edition, as a rude index to more exact things in the King’s Chamber—he prefers to inveigh against both the errors of the ancient work and the gullibility of modern theorists.

This degrading insinuation is especially the case with the “boss” on the Granite Leaf. He allows there (p. 78) that the measures of its thickness are, some under, some over, the typical one inch; and of its breadth some under, some over, the five inches claimed for it; says nothing about its characteristic eccentricity adjustment of one inch,* but considers he has smashed the whole theory by simply declaring that such a projection was a common feature left on granite blocks to assist in moving them; and he has found, by look-

* “Our Inheritance,” edit. 4, p. 208.

ing narrowly with a side light, traces of there having been once some much larger bosses on the granite stones in the King's Chamber.

To all which we can calmly reply, that those bosses were, by Mr. F. P.'s own measures, neither of the right size, nor in the right places, to serve the intended metrological purpose of the one boss on the Granite Leaf.

While as to a boss having been a common feature for the lifting of blocks in old Egyptian buildings; that is exactly what has saved this one particular boss of the Ante-Chamber from peculiar and virulently directed Egyptologic destruction during the ages that are passed. Just as the numerous Egyptian burial Pyramids, round about, or near to, the one purer Great Pyramid with a subterranean chamber never soiled by a corpse,—have saved it from Pharaonic devastation in past history; and enabled it faithfully to carry on to these last days a prophecy breathed into it of old for far other than Egyptian purposes, by inspiration from the God of Israel.

CHAPTER VIII.

THE HEBRAICALLY SACRED, EARTH-COMMENSURABLE, ANTI-EGYPTIAN CUBIT, OF 25 BRITISH INCHES NEARLY.

IN the Queen's Chamber examinations of the new book, something rather *morally* instructive than anything else, exhibits itself.

For there, Mr. F. P. describes the grand "Niche," so-called, therein, as being, in its several parts, 3, or 2, or 1, or $\frac{1}{4}$ cubits broad; such cubit being always with him the cubit of idolatrous, Cainite, animal-worshipping, ancient Egypt, 20·6 inches long, though with errors "of — 0·66 to + 0·36 inches; while he intensifies that Egyptological finding of his, by adding thereto (p. 70), "and there is no evidence of a cubit of 25 inches here."

This is doubtless in allusion to my having explained the remarkable eccentricity displacement of the whole Niche out of the middle of the Eastern wall of its Chamber (a displacement amounting by the measures of several critical explorers after me to 25·025 British inches)* as the most admirable and scientific method that could well be imagined, for representing one single, concrete example of a short standard of linear measure, in a perfectly inexpugnable manner in a vast building erected in the midst of its enemies.

* See p. 425 of "Our Inheritance in the Great Pyramid," edit. 4.

It was also a splendid illustration of the general metaphysical ruling of the John Taylor, Biblically sacred, theory of the Great Pyramid in its entirety—*viz.*, that though it was erected by Egyptian labourers, and even built to Egyptian measuring rods in each small step by step, it was yet caused in its whole result to bring out a purpose of an over-ruling Divine influence, which, as I have dilated on years ago in “Our Inheritance,” the Egyptians did not understand at the time, never came to understand through all their subsequent history, and would not have liked if they had understood it.

So here, before our eyes, is an enthusiastic young modern Egyptologist, delighted to bring out the Cainite cubit of Old Egypt into honourable notice for small things; and after doing so, actually declaring in the midst of that white-stoned, seven-sided chamber (p. 70), “there is no evidence of a 25 inch cubit here.” Although too he had himself just measured the eccentricity of the noble Niche, and found it, at its lower, larger, and most important section, 25·1 British inches; or, with a workman’s error upon the sacred theory, seven times less than what he was agreeable to overlook when the identification of a profane cubit was concerned.

What is not this, therefore, but the modern European Egyptologist falling into exactly the same pit of blindness and unbelief that was prepared for the native idolater of that country of old. He, that pure and perfect one in his own eyes, used the profane cubit in his own forced work at the Great Pyramid, and never saw that it was being over-ruled then and there

alone throughout Egypt, to bring out, in terms of the sacred cubit of Israel, the Bible, and the earth as formed by God for the residence of Adamic man, higher things than he and his co-false religionists had ever dreamt of.

Hence I have nothing to alter with regard to what I have written through several years past, either on the Queen's Chamber Niche and its eccentricity Sacred Cubit by measure, or of the ancient Egyptians from the Biblical point of view, or yet of the tendency of modern Egyptological studies.

In fact, this very clever book of Mr. Flinders Petrie supplies so many further examples of the same dangerous kind, that I should be hardly excusable before the public were I not to endeavour to point out the misleadings of two or three more of them, which may be, perhaps, of a still more fatal influence to those who incautiously embrace them.

PART IV.

History, Sacred and Profane.

CHAPTER I.

OF THE RESPECT DUE TO ANCIENT CLASSIC AUTHORS.

IN the index of the new book, "Accuracy of Greek Travellers," figures for page 159, while both there and on page 161 we are told:—

"The accuracy of the descriptions of the Greek travellers deserves notice, as they are often much more accurate in their facts than modern writers."

And then, having given examples, the following is appended:—

"Thus we see that there is in these historians an honesty and correctness in their descriptions, and a fulfilment of the amount of accuracy which they profess, which it would have been well for many, perhaps for most modern writers to have imitated."

But what are the examples on which these conclusions are based? The following chiefly:—

1. Herodotus is quoted for a base-side length of the Great Pyramid, which Mr. F. P. himself declares to be 53 feet in error.

Morton Eggar.

2. Diodorus Siculus similarly for a length 47 feet in error.

3. Strabo, for a length which may be twice as much in error, and,

4. Pliny, for a base-side length said to be only 40 inches in error; but as that is produced by gratuitously assuming a suitable length thereto for Pliny's unknown foot standard, and as he was a Roman, his case may be paired off with that of Strabo, leaving only Herodotus and Diodorus as the representatives of those Greek travellers whose remarkable accuracy, it is said, most modern writers might have imitated with advantage.

Now, in their (the Greek travellers') day, the outside circuit of the Great Pyramid was clear of rubbish, and plain and open to any measurement upon it; and yet they erred by something amounting to 600 inches on one base-side length. The moderns, on the contrary, ever since the discovery of the sockets, have—notwithstanding, too, the immense rubbish-heaps, both now and ever since Mohammedan rule in Egypt began, fearfully encumbering the ground—they have, I say, varied only between 9,110 and 9,168, or no more than 58 inches, for the same feature at their extremes; and for their averages, between 9,120 and 9,144, or by 24 inches only, and perhaps by less.

What, therefore, *can* Mr. F. P., himself a man understanding and dealing in the accuracy of decimal fractions of an inch to many places of figures deep, what can he possibly be driving at by praising up the former men and their clumsy measures, as examples to the latter, who did their work by comparison most

And in 1924-1925, and 1938, all the debris was removed from the Base-lines or the North & South sides—at my request—as the North side, & also at my request and partly at my personal expense, at the South side.

The rubbish mounds now much reduced in size by modern builders who carted large quantities away for making concrete.

respectably? Can he, by giving so much exaggerated praise to the former's shockingly rough measures, be seeking to lead off attention from the gross neglect or contumely he treats the very same classic authors with in other matters; of a kind, too, where they were far better qualified to be authorities?

That would seem impossible, when he thus still further speaks of the earlier of those two Greek writers, and in connection precisely with such verbal, personal, historical matters as he may, with propriety, be referred to as the best, as well as oldest, authority next to the Bible itself:—

“The accuracy with which Herodotus states what he saw, and relates what he heard; the criticism he often applies to his materials, and the care with which he distinguishes how much belief he gives to each report; all this should prevent our ever discrediting his words unless compelled to do so.”

Exactly; and how does Mr. F. P. act, after having laid down the above principle so indubitably? He totally disbelieves Herodotus' account that the builder of the Great Pyramid was *not* buried in that monument, and *was* buried a long way outside it, in a peculiar insulated position, deep in the rock, and surrounded by the waters of the Nile.

That most peculiar tomb has actually been discovered.* Mr. F. P. has visited it; allows that it must have been a work of Cheops' reign, or of the Pyramid-building Fourth Dynasty; but argues that, instead of being Cheops' tomb, it was only the origin

* “Our Inheritance in the Great Pyramid.” Fourth Edition, page 130, and plate xix.

of the story of Cheops' tomb given by Herodotus (p. 139), who was, therefore, romancing, or worse.

But why is Mr. F. P. "compelled" thus speedily to smash the doll, or idol, he has just set up? For no other reason that we can find in his book beyond this: that as he has taken up, body and soul, with the modern Egyptologists in their wholly tombic ideas about the Great Pyramid, he cannot afford to allow that Cheops was buried anywhere else than in that monument; though, too, both of those accurate Greek historians and travellers, so highly approved by himself, have stated, at a historical stand-point, more than 2,000 years nearer the event, that Cheops was by no means buried in the Great Pyramid, and that his tomb was at a distance therefrom.

Unfortunate Mr. F. P.!

CHAPTER II.

THE PHILITION OF HERODOTUS.

STILL worse, however, than the above case, is Mr. F. P.'s total omission, so far as I can find, of that most telling account in Herodotus, touching the powerful Shepherd, or Shepherd Prince, Philition, having been, in the eyes of the Egyptian people, the effective ruler, controller, or possessor of the two greatest Gizeh Pyramids.

Now, from the first publication of John Taylor's, "Why was the Great Pyramid Built, and Who Built It?" down to the fifth edition of Charles Casey's "Philitis; or, The Mystery of the Great Pyramid Solved," that involuntary Greek admission of an extra-Egyptian, and certainly Eastern influence, prevailing peaceably, but sternly, over the King of Egypt, and all his workmen at that time, has been acknowledged to be the most precious key to the mode of introduction of Hebraic Divine inspiration into the plans, proportions, design, and ultimate objects for donating the world with a Great Pyramid at all; as well as for building it in Egypt, among Egyptians, and by forced and hateful Egyptian toil. Philitis, or Philition, having been certainly a Shepherd Prince of Palestine, and probably either Shem or Melchizedek. *or both in one*
Nor did the Divine inspiration at the Great Pyramid, *and the same person*

so far as all history and antiquity may prevail to indicate, extend to a single other individual beyond Philitis.

At the construction of the Tabernacle in the wilderness, many hundred years afterwards, it was far otherwise; for then the Scriptures declare that not only did Moses receive instructions from God, but that the workmen under him, as Bezaleel, the son of Uri, were filled (by God) with the Spirit of God in wisdom and understanding and in knowledge, and in all manner of workmanship (Exod. xxxv.); and still more widely in Exod. xxxvi.: "Bezaleel and Aholiab, and every wise-hearted man in whose heart the Lord had put wisdom, even everyone whose heart stirred him up to come unto the work to do it."

But there were no such workmen known at the Great Pyramid. They were born Egyptian idolaters all, and remained so throughout, in accordance with, or, perhaps more correctly notwithstanding, that other sentence in those accurate Greek historians of old, but which Mr. Flinders Petrie nevertheless declines to give any place to—viz., that the idolatrous temples of Egypt were forcibly closed during the whole time of the building of the Great Pyramid at Gizeh, and only re-opened when the Shepherd Prince, Philiton, had left; but then to worse idolatry and more pronounced animal worship than ever, in the times of King Mencheres of the Third Pyramid.*

Unwilling then, and idolatrous still in their hearts, as the Egyptian workmen at the Great Pyramid were,

* See William Osburn's "Monumental History of Egypt."

how can we expect otherwise than that they scamped their task work on every possible occasion; or just as the sharp-eyed, keen-witted Mr. Flinders Petrie finds so many examples of! We must, therefore, really and heartily thank him for dragging those peccadilloes to light, and for reminding all Christian Pyramid students thereby, that the workmen's handicraft at the Great Pyramid, having nothing of divine inspiration directly about it, was not and could not have been perfect. The cutting and placing, therefore, of stones, and the stones themselves of the Great Pyramid, are not to be regarded with worship by anyone; and are only to be held of any account at all by every believer in the Bible, in so far as they may enable us to approximate to where the divinely inspired ideas were centred—viz., in the spirit of the superintending Melchizedek, or Philitis. (i.e., possibly, Shem)

We may truly rejoice, therefore, that Mr. Flinders Petrie has so many cases of error to charge against the idolatrous Egyptian workmen; as when he finds that in sawing the end of the Coffer, they twice over got their saw too far within the appointed line, and had to "back it out" and try again. Said saw too of brass and iron, set with jewelled teeth, being, further, so amazingly like what we might expect to find among the Cainite Egyptians, after the hints the Bible has given of the inventions and constructions of Jubal and Tubal Cain.

CHAPTER III.

ABSOLUTE DATE OF THE GREAT PYRAMID.

1877
1883
see top of page 18

BUT when we arrive at last in our perusal of the new book, at its discussion of the all-important chronological date at which these most memorable Great Pyramid events took place, alas! how Egyptianised has not Mr. Flinders Petrie himself become in six short years. For in 1877, in his then carefully-prepared Pyramid diagram, he attacked the John Taylor time-passage theory, because it did not give the dates of either the Septuagint on one side, or the Hebrew version of the Bible on the other. While he likewise condemned my 2170 B.C. date of the Great Pyramid as being too early, because there were not (in accordance with those Biblical chronologies) enough men, he said, on earth so soon after the Deluge and Babel to erect such a building.

But now he scouts the 2,170 B.C. date (pp. 188 and 191) because forsooth it is not early enough to be agreeable to both modern Egyptology and the merely Ptolemeian-old Egyptian idolatrous priest Manetho. And while he suggests 3400 B.C. as being more agreeable thereto, says not a word about its flat contradiction by such a huge amount as 1200 years to one, if not both, of his formerly quoted sufficient and absolute authorities — viz., the two chief versions of the Scripture history of the world and man.

Petrie, when excavating in Palestine found some Scarabs, & on the strength of these, he changed his date for Khufu, & many others before & after Khufu, by as much as 1000 years (i.e., nearly a thousand years) nearer the Christian era — with a promise that possibly further findings might necessitate shifting the dates still nearer.

CHAPTER IV.

THE LATTER END INDICATIONS OF THE TIME PASSAGE
THEORY.

“THE 8th of August, 1882, which was to have been some great day on this theory, has passed quietly away, and we may expect the theory to follow it in like manner,” says Mr. F. P. at his p. 188.

I do not know, however, that I, who may be assumed to be the party most particularly aimed at here, have on any occasion limited that theoretical indication to a single day. But, on the contrary, I confessed and voluntarily exhibited the uncertainties of my measures for the chronological length of the Grand Gallery of the Great Pyramid, by printing my two divergent measures of the two sides of that Gallery; having also admitted the pertinence of the many discussions in Europe, as to whether all Christendom is in lamentable and contradictory error as to its supposed Christian chronology, to the amount of several years, or not at all, or perhaps about three months; and I have further in this paper freely allowed the possibility of Mr. F. P.'s length for the Grand Gallery, a length some 0·8 of an inch (meaning there of a year) longer than mine, being the more correct of the two.

Hence my own ideas for reading off and interpreting this one of the Great Pyramid's prophetic dates, have

never presumed to be closer than somewhere about a year; and that only for the first of the *two* lengths which the Grand Gallery has by measure; viz., “through the Step” as above; but over the Step, 29 inch-years longer. After, or during, which slowly being worked-out Grand Gallery consummation, religious history enters a low Pyramid Passage of trouble, doubt, and difficulty, lasting many years.

Let us then, while the memory of recent events is still tingling in the ears of all the world, *minus* Mr. F. P.—let us, I say, examine and see whether the year 1882 A.D.,—though only the beginning of the interval appointed for the Grand Gallery’s Southern termination to symbolise, viz., A.D. 1882 to 1911 A.D.—did pass away so very quietly, with reference to Egypt, Turkey, Mohammedanism and Christianity as he would have his readers accept from himself. And then all those who enquire and search for themselves, will find,—

(1) In the early part of that year the Egyptian people, under the lead of a native, Arabi by name, threw off the rule of their Mohammedan King or Khedive, and the Turkish Sultan too, in a manner never before known in the history of that land.

(2) Almost simultaneously with which came, *first*, the massacre of Europeans in Alexandria; *second*, the flight of the Khedive to a trembling, fearful hiding on the brink of the Northern coast of Egypt; and, *third*, the most unexpected, but happy, breaking of the Dual Control, which had otherwise bound England hand and foot to France in all the affairs of Egypt.

(3) Then followed the bombardment of Alexandria with larger cannon than ever employed in warfare

$$\begin{array}{r}
 61 \\
 + 36 \\
 \hline
 97 \\
 - 68 \\
 \hline
 29
 \end{array}$$

before. When Alexandria, of all the five notable cities of Egypt (Isa. xix. 18) became both thereby, and by its immediately subsequent burning at the hands of the Egyptians themselves, "The City of Destruction."

(4) Soon after that, by immense national effort, an army of 25,000 men from Christian Great Britain was hastily poured into Egypt to fight the Egyptians.

(5) The battle of Tel El Kebir followed, when more men of that land were sent out of this world by the British bayonet than had ever occurred before. After which terrific chastisement the whole country, despite the Sultan, fell into the hands of England; and 15,000 English soldiers were presently sent, at public expense, to look at, and wonder over, the Great Pyramid.

Now what year previous to 1882 saw anything approaching to that terrible succession of horrors, destructions, and triumphs connected so peculiarly with Egypt, Turkey, and Christian Great Britain, or British-Israel rather, that anyone is entitled to say and teach, with opprobrious reference to the Pyramid time-passage theory, that the year 1882 passed quietly away!

Something, on the contrary, began to work then so patently in the histories of both Egypt and Great Britain, and in a manner so unexpected by politicians, that I, for one, hungering and thirsting to know where we are and what next, have been driven from newspapers to studying reverentially and prayerfully, again and again, that wonderful xix. chapter of Isaiah, from the first verse to the last. For therein are to be found inspired sketches of the last days and their particular bearing on Egypt and British-Israel, in most comprehensive picture upon picture; not separated yet stereo-

scopically into easily recognisable chronological series, but divinely originated, absolutely true; and if not enacted already, still to come to pass.

That the Great Pyramid, when understood on the John Taylor sacred and scientific theory, is the "pillar" as well as the "altar" described in that chapter by the inspired Hebrew, and most Messianic of all the prophets, and is also "the sign and the witness to the Lord of hosts" in the latter day mentioned there, has long since been set forth in successive editions of "Our Inheritance," and is an invaluable truth, most easy for a thorough and faithful Christian to comprehend and profit by. But others of the allusions are more difficult. As how, for instance, could it equally be said of a Mohammedan people by the Lord of hosts, with blessings, too, upon them, "Blessed be Egypt, My people?" and how in the Hebrew Bible could such Mohammedan nation be placed first, and Israel, or Christianised British-Israel, third only, on the list of God's favoured and approved nations?

A vast change evidently, at least to every believer in the Bible, has still to be brought about upon both the land and people of Egypt, before the latter days shall be finally accomplished, however effectually they were begun in the memorable year of 1882. And perhaps a great deal of change has to be wrought in our own country as well; and in none more than in the direction of freeing its Government from the earthly, semi-atheistic bonds of "Cæsarism"; or that combination of civil government with military power which claims to itself a greater than Papal, than all religious, infallibility. In fact, our country must be taught to confess before the

world, far more frequently and fully than it has been doing of late, that "the Most High ruleth in the kingdom of men, and giveth it to whomsoever He will." Or to bring it more savingly home to where it is needed, more of direct praise and thanks and honour must be offered by our rulers and governors "to the King of heaven, all whose works are truth and His ways judgment; and those that walk in pride He is able to abase" (Dan. iv. 37).

Very much, therefore, as we might have been led to expect, the time even now already elapsed since the British conquest of Egypt in 1882, and the ceasing of the Sultan of Turkey's power over it,—has not passed without events abundantly indicative of the low, and threatening Pyramid passage of history, at the Southern end of the Grand Gallery, having been entered by ourselves as well as by Egypt; or of the period between the two lengths of the Grand Gallery, deepening over us. For what has not occurred since then?

Christian England has allowed the Great Pyramid, the one and only known remaining monument of the earth, built according to Divine inspiration, and even appointed, on the testimony of the Holy Bible, to be a sign and a witness in the latter day to the God of Israel, to fall back into the possession and torment of Mohammedan, riotous, ignorant Arabs. It has also set up the Mohammedan King of Egypt again; supported him in his own capital by British Christian soldiers; and they have been placed in public so as to do honour, in the eyes of Mohammedans, to the Mohammedan festival of sending a so-called sacred carpet to the tomb of the false Prophet at Mecca.

Can that have been pleasing to God and His Christ? Would Daniel, or would Shadrach, Meshech, and Abednego have been willing to assist at such a ceremonial? And does our Bible permit it, and hold those who ordered, and those who performed, it guiltless? But as the Hebrew prophet declared of old for these identical times, "The Lord shall smite Egypt; He shall smite and heal it." And accordingly both Egypt and the triumphant English in that country were very soon smitten by cholera, to the loss of a vastly greater number of lives than all the destruction of the war.

But the Egyptian people did not therefore return to the Lord; nor did the English Government make public demonstration of their fealty to Christ their King. They apparently, too, by no means understood that they were being employed by God, according to His sacred Word, to be the saviour and the great one to practically deliver Egypt, when the children should at last and at their very bitterest, cry to the Lord on account of the oppressors. In fact, the English Government were in 1883 trying rather how they could most quickly get out of that country, and leave it, as was scandalously said, "to stew in its own juice."

But that was not to be.

Therefore, no sooner had the intention been authoritatively declared at a grand banquet in London, than tidings out of the East and the South began to trouble; and very quickly caused those who had spoken the words so confidently of withdrawing the British troops, not only to cease that operation, but to begin rather to increase their numbers. Nor could they do otherwise, when every post brought news of the posi-

tive annihilation of army after army of English-led Egyptian troops, of massacres of women and children, and the selling of the remainder into slavery in the distant Soudan region.

But by whom, and how?

By a Mohammedan, undoubtedly; a reviler, too, and necessarily so, of Christians; but one who lost no opportunity of proclaiming his sincere and perfect belief—not in political economy, or diplomatic statecraft—but in the grander truth that “the Most High doth rule in the kingdom of men,” and “giveth it to whomsoever He will.” Reminding us only too clearly of its parallel character with the first appearance of Mohammedanism in the world, to smite the Christians of that time who had fallen into the idolatry of images and fragments of dead, human-made saints.

And *how* did this still false prophet, or so-called Mahdi in the Soudan, gain his victories over Anglo-Egyptian armies?

Precisely as Isaiah says, “by the heart of Egypt melting, its spirit failing, in the midst of it, and Egypt becoming like women;” or, as the morning papers have been so recently chronicling, by their military hosts being stricken by abject fear, by their men standing stupidly and torpidly with their backs to the foe, waiting in paralytic abjectness to be speared to inevitable death; or throwing themselves on the ground and screaming until the Mahdi’s swordsmen terminated their ignoble existences.

When were such scenes ever witnessed in Egypt before? Certainly not when I was there in 1865; nor were they then even remotely expected; for Egypt was

at that time an orderly, well-ruled country at home, and abroad was pursuing a conquering career, daily extending its possessions along or up the course of its wondrous river to the still more marvellous lakes of Africa's equatorial regions.

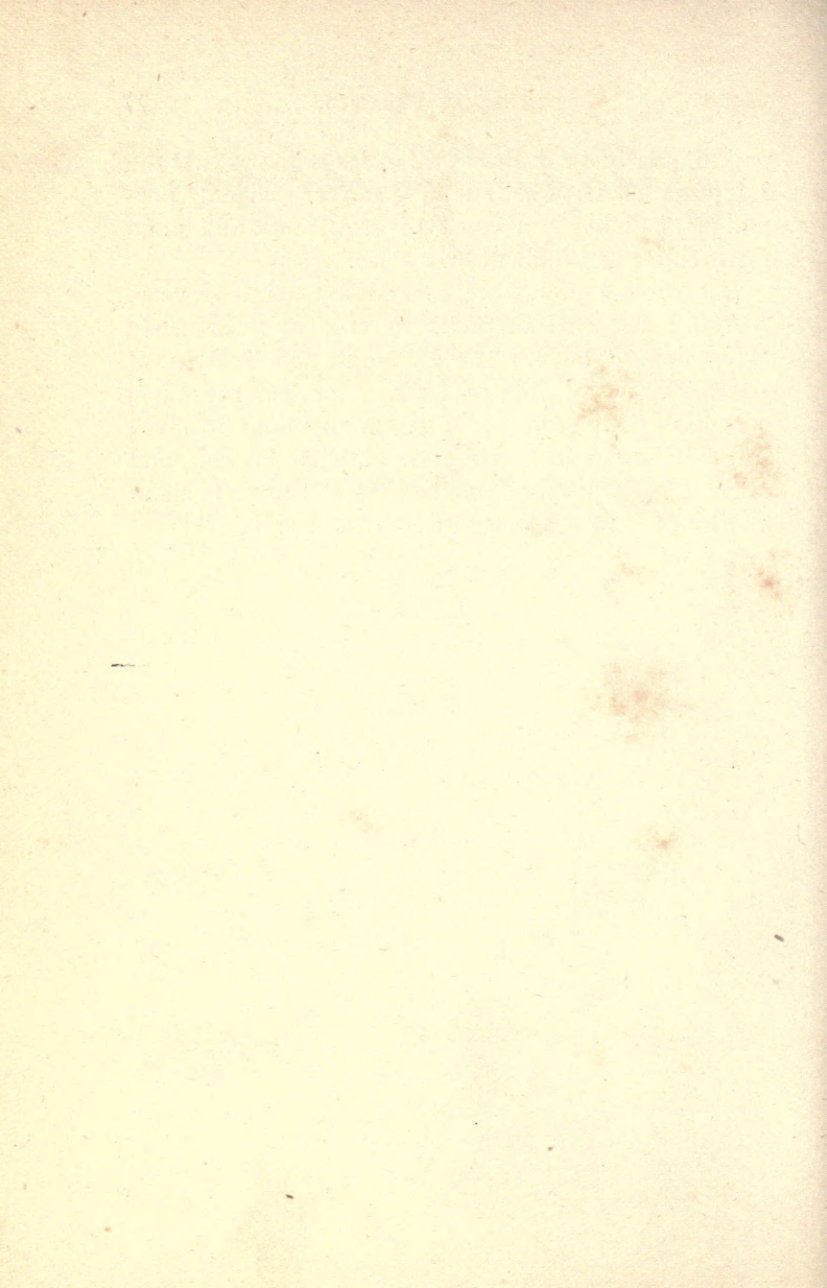
But such a frightful series of the Mahdi's easily-won victories was beginning to have the dismal effect of reviving the faith of the surrounding Mohammedan populations of all other countries in their notions of the destiny of Islam being to conquer everywhere; and that is not the conclusion indicated for these times in *Isaiah* Daniel³ xix. So then the Lord arose. The English Ministry which had fought against being in Egypt at all, was made to bring infantry, cavalry, artillery, marines, sailors from all sides to the Southern land. They even sent there in one short week no less than four millions of death-dealing cartridges for one kind of arm alone; and a battle was presently fought near the shores of the Red Sea with the Mahdi's warriors, which in three short hours not only broke their power and turned the survivors of them into fugitives, but so shook the faith of all those countries in the claims of their leader's religion, that, stricken by God, the vastly-dreaded Mahdi's power began instantly to fall to pieces like a rope of sand.

Whether this is to be the beginning of the once Christian land of Egypt returning to the Lord, time only can show to limited human intellect; but the final result is assured both by the Bible and the John Taylor time-passage theory of the Great Pyramid.

In short, though Mr. Flinders Petrie refuses to acknowledge it, and would have us believe that 1882

passed quietly away, the world at large knows that the Egyptian Question became in that year suddenly portentous, and has continued to grow more and more threatening and difficult ever since.

But enough now, from merely my point of view, touching the real character of this most intensely Egyptological book, "The Pyramids and Temples of Gizeh," by W. M. Flinders Petrie; for there are others who have their own equally mature opinions to give; and with, if possible, still more national, historic, and many-sided provable right than Great Britain to claim a share of "Inheritance in the Great Pyramid."



PART V.

The American Episode.

CHAPTER I.

ACTION OF THE INTERNATIONAL INSTITUTE, CLEVELAND,
OHIO.

THE earlier of the preceding chapters had hardly been written here, when there came a most remarkable, unexpected, but eminently encouraging communication from America.

Mr. Flinders Petrie's book had been by his own arrangement published simultaneously in New York and London; and had probably as many readers in the one city as the other. But in the former city and its country a spirit of inquiry was immediately manifested, the work was submitted to close examination, and discussions began to be held about it, first in private, and then at the public meetings of

The International Institute for Preserving and Perfecting the Anglo-Saxon Weights and Measures, and for Opposing the Introduction of the French Metrical System amongst English-speaking peoples; Branch at Cleveland, Ohio, U.S., America.

For the right spirit in which these examinations and discussions were carried on, we cannot do better than refer to the concluding sentence of a review since

then published by the Institute, in its bi-monthly journal, "*The International Standard*," p. 528, No. 6, vol. i. After very mildly pointing out that Mr. F. P. was rather too hasty in assuming that his measures were so very superlative as instantly to utterly overthrow those of his predecessors and constitute "the funeral" of all their theories of the Great Pyramid, the reviewer proceeds, "We are all seeking for the truth. We want the truth in soberness and in kindness to each other, and we want a fair, earnest, liberal discussion, not acrimonious, but always looking to the fact that we are studying a great Monument of Inspiration given by God for our instruction; and every seeker of the truth should act, and speak, and write as unto God."

And now for the communication which reached me in the latter end of November, 1883.

It was a large postal packet containing—

First, a letter from the Rev. H. G. Wood, Sharon, Pennsylvania (date Nov. 10), in which, after setting forth that he had been examining Mr. F. P.'s book carefully, after having long since read and re-read my "Life and Work at the Great Pyramid," the reverend writer stated that Mr. F. P. seemed to him really "in the most marvellous manner" to confirm my conclusions as to the Great Pyramid's socket-defined base-side length. For while his measures, which were allowed to be apparently very exact, were superficially different, yet when considered with due reference to the levels of the sockets, they bring out my numbers.

A paper explanatory of these things (and which will be found a little further on) had been read by Mr.

Wood before the International Institute, was discussed there by the members, resolutions were arrived at, and he, Rev. Mr. Wood, had been requested to transmit them to me, he signing himself,

“Faithfully your co-worker in Pyramid study,

“H. G. WOOD.”

The “action” of the International Institute thus transmitted was couched in the following words:—

“~~Whereas~~ A WORK RECENTLY PUBLISHED BY MR. W. M. FLINDERS PETRIE, UNDER THE PATRONAGE OF THE ROYAL SOCIETY, LONDON, ATTEMPTS TO THROW DISCREDIT UPON THE PYRAMID INVESTIGATIONS OF PROF. C. PIAZZI SMYTH, ASTRONOMER-ROYAL OF SCOTLAND; AND, WHEREAS, THIS ATTEMPT OF MR. PETRIE, BACKED BY THE ROYAL SOCIETY, IS SO SKILFULLY PERFORMED, AND HAS SUCH A WEIGHT OF PRESTIGE, AS ALREADY TO HAVE SHAKEN THE CONFIDENCE OF MANY BELIEVERS IN PROF. SMYTH’S THEORIES, THEREFORE,

“Resolved, THAT “THE INTERNATIONAL INSTITUTE FOR PRESERVING AND PERFECTING WEIGHTS AND MEASURES, AT THIS THEIR ANNUAL MEETING, AFTER LISTENING TO A CAREFUL AND ELABORATE EXAMINATION AND CRITICISM BY REVEREND H. G. WOOD, OF MR. PETRIE’S WORK, ARE NOT ONLY STRENGTHENED IN THEIR CONFIDENCE IN THE ACCURACY OF PROF. SMYTH’S WORK, BUT DISCOVER IN MR. PETRIE’S MEASUREMENTS THE MATERIAL FOR SUBSTANTIATING THE CONFIDENCE REPOSED IN PROF. SMYTH.

“Resolved, THAT WE APPOINT REV. H. G. WOOD A COMMITTEE TO FORWARD A COPY OF THESE RESOLUTIONS TO

PROF. SMYTH; AND WE REQUEST MR. WOOD TO COMMUNICATE TO PROF. SMYTH THIS DISCOVERY OF THE UNWITTING CONFIRMATION WHICH MR. PETRIE HAS GIVEN OF PROF. SMYTH'S THEORETICAL MEASURES OF THE EXTERIOR OF THE GREAT PYRAMID."

CHAPTER II.

ANSWER SENT BY C. PIAZZI SMYTH, EX F.R.S., THROUGH
REV. H. G. WOOD, TO THE INTERNATIONAL INSTITUTE
FOR PRESERVING AND PERFECTING WEIGHTS AND
MEASURES, EUCLID AVENUE, CLEVELAND, OHIO, U.S.

GENTLEMEN,—I have the honour to acknowledge receipt, *per* Committee represented by Rev. H. G. Wood, Sharon, Pa., of a copy of the resolution you came to, at your annual meeting on Nov. 8, after hearing that gentleman's careful and high scientific criticism of just the most crucial portion of Mr. Flinders Petrie's recent book on "The Pyramids and Temples of Gizeh."

1883

P. Smyth

While I was quite aware that there was much in that book intended for my own particular confusion, but which I trusted the Pyramid facts would render me quite capable of withstanding, I could not but regret that it seemed to have been arranged also to confound many other persons who, in various countries, have listened favourably for several years past to what I have had to say of the Great Pyramid in Egypt. Saying it, however, not of my own inventions or discovery, but on the lines of both religious origination and scientific respect to its unknown architect, commenced by the late John Taylor, Gower-street, London. Now these other persons, for whom I was grieved, were

always, so far as I knew them, most excellent, worthy individuals, exemplary for carrying the *mens sana in corpore sano*, as Christians as well as scientists, but who, not having been favoured with such large opportunities as had been granted to me, for ascertaining on securest and absolute grounds at the place how very much more testimony there is for us than against us, were not equally well armed for their defence.

In this particular emergency how relieved I have been to find that the men of the United States, among whom the book was thrown, at its simultaneous publication in London and New York, like a bomb-shell to disturb them, have instantly helped themselves by first reading it carefully through from the first page to the last, and then initiating a discussion at a public meeting commenced with prayer, in the hall of their most earnestly-striving International Institute for Preserving and Perfecting Saxon-land's Historic Weights and Measures.

That institute, though but four years old, having had more papers already before it on the Great Pyramid than any other scientific society existing, was efficiently qualified to discuss the new work at once, as well as to compare the mentally elevating theories of the Rev. H. G. Wood, with the depreciating ones of Mr. F. Petrie; and it did so.

With this remarkable result too, or of finding—

(1) That Mr. F. Petrie's book is an attempt to throw discredit on those Pyramid investigations, which I have been carrying on for the last eighteen years, in continuation of the grand ideas received from and particularly confided to my care in 1864 by that

admirable man, John Taylor, when he was called away from his usefulness and further work in this world at the noble old age of above 83.

(2) That the result of the Rev. H. G. Wood's able analysis of both sides of the case has not only strengthened the Institute's confidence in the accuracy of my work, but discovers "in Mr. F. Petrie's measurements the material for substantiating the confidence reposed in me." Wherefore the members of the Institute, as well as I too, may deservedly thank the Rev. H. G. Wood for his so very speedily bringing out, as they are pleased with happy point to phrase it, "the unwitting confirmation which Mr. F. P. has given to Prof. Smyth's theoretical measures of the exterior of the Great Pyramid."

But there is another point on which I am yet more particularly and personally bound to thank the International Institute for what it has found it in its heart to do on the present occasion. For this mischief-intending work of Mr. F. P. was published in London, not on its author's responsibility alone, but under the direct sanction of the one Central Society there which engrosses now so much wealth, Government subsidy, executive patronage, and high social influence, as to have become in a manner dangerous to the liberty of soul and freedom of conscience of the scientific and literary men of the age, without their apparently knowing it.

Now this society, which is none other than "the Royal Society," and which is working a silent revolution against the weights and measures of its own country, by the encouragement it gives its members to

The vindictiveness of the Royal Society against the Great Pyramid & those who have faith in its inspired testimony, and in 1928 the "Watch Tower Society," founded by Charles Tege Russell, a firm believer in that testimony, repudiated, and consigned to the devil, the Great Pyramid's inspired testimony, as well as all who, with C. T. Russell, firmly believe.

84

NEW MEASURES OF

[Part V.]

use the French Metrical system, has still further characterised itself for many years past by a sort of undying, unforgiving opposition to every appearance of the sacred and scientific theory of the Great Pyramid. As thus:—

(a) In 1859 it rejected John Taylor's first Great Pyramid paper, which he therefore printed in his "Battle of the Standards."

(b) In 1864, when I went out to Egypt to measure the Great Pyramid *in situ*, and was in the utmost straits for funds, the Royal Society, which is in receipt of a large annual grant from Government, for the assistance of precisely such special efforts in science, not only gave nothing to my semi-pauperised work beyond the seas, but actually sent back part of that year's grant to Government, on the plea that there was nothing then going on that needed it.

(c) In the autumn of 1871, when I made a direct request for assistance towards a second expedition to the Great Pyramid then contemplated, the Council, I have reason to believe, for its proceedings are secret, extinguished the application at once, without waiting for the usual formality of the February meeting, when all the claims that have come in during the year elapsed are supposed to be discussed and adjudicated upon.

(d) Lastly, in 1874, the Royal Society printed, in a paper on the Ordnance Survey of Great Britain, some unnecessary, quite erroneous, and exceedingly derogatory views of the Great Pyramid, by a General officer who had never seen it; and when I pointed out the several gross errors, and also sent direct observa-

tions and measures of the parts of the Pyramid concerned, the Council refused to let them appear in either of the two serial publications of the Society, in both of which the improper documents had figured with practical approval.

Wherefore; then, I recognised that there was nothing left for *me* (at that time a Fellow of the Royal Society) but to come out of it, and bear my testimony elsewhere in the free and open world.

So when I heard, a few months ago, of that Royal Society having just then voted money assistance to bring out a new author's Pyramid book, I was at no loss to guess what side that book would be on; and was certainly much troubled to think how many innocent, confiding persons would be misled by it, and for no other reason, perhaps, than it had been brought out under the patronage of the overpowering "Royal Society."

Shame, however, to me, that my faith wavered even for a moment, in the necessary progress of a cause originated by Divine inspiration in the beginning of the world, and intended prophetically to come out in these times wherein we live and the coming times. And if some individuals on this side of the Atlantic have been too ready to quail before, and yield to, the mighty Royal Society in London; and now, being converted thereto, join in reviling the Great Pyramid theory and its applications,—see how the International Institute for Preserving and Perfecting Weights and Measures has been raised up in America; so appropriately, too, amongst the sons of the Pilgrim Fathers; amidst surroundings of the fullest liberty and history;

and in a nation, a highly organised nation,—the maximum Republic of the world, the reverse side of whose Government seal contains a figure of the Great Pyramid, and whose coinage, by some special coincidence which no one can either explain or refute, shows a close numerical agreement in grains, whether of gold or silver, with the inch measures of the principal chamber in the most ancient monument of the earth.

Very best thanks, therefore, once again, dear gentlemen of the International Institute, for the generous and true resolution you came to at your Annual Meeting of November 8, 1883; and long may you continue to lead and instruct in the origin and destiny of Anglo-Saxon national and hereditary measures, not only the people of the United States, but “all the Israel of God.”

I am,

Gentlemen,

Yours most respectfully,

C. PIAZZI SMYTH.

15, Royal-terrace, Edinburgh,
November 24, 1883.

CHAPTER III.

THE PRESENT STATE OF THE BASE-SIDE LENGTH QUESTION
OF THE GREAT PYRAMID. BY THE REV. H. G. WOOD,
SHARON, PA.

[Reprinted from pp. 493—502 of the *International Standard*, published at 30, Euclid-avenue, Cleveland, Ohio; and at 345, Tremont-street, Boston, U.S.A.]

IN the September number of this magazine we demonstrated that the semi-polar axis of the earth equals the height of a curtate cycloid, whose generating circle has a radius of 63,360 feet ($5,280 \times 12$), and whose base is the equatorial diameter of the earth. The semi-polar axis thus obtained is 20,854,101 feet. One ten millionth of this is 25.0249212 inches, which multiplied by 365.24224, the number of mean solar days in the tropical year, gives 9140.158 inches. This is within .02 of an inch of the theoretical base side of the Great Pyramid, according to Professor Smyth's computation. = Dist. Station Nile.

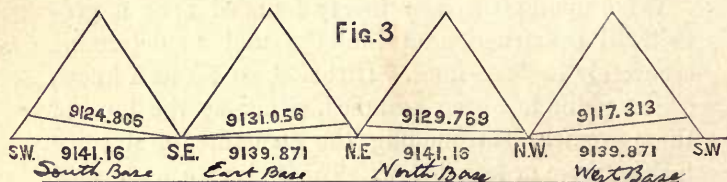
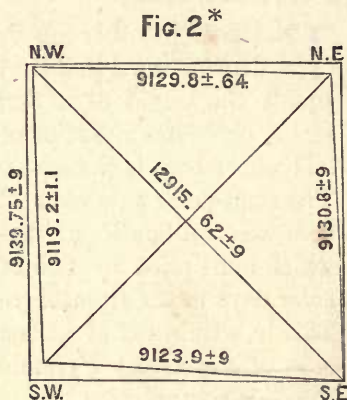
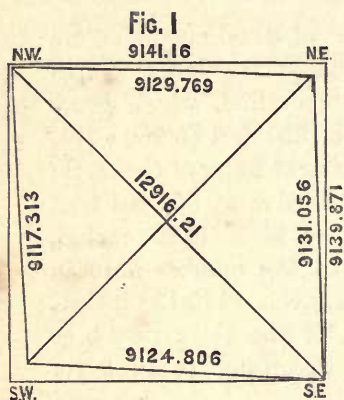
It is important to any theory founded upon a geometrical construction of the Pyramid to determine accurately its base lines. Hitherto, so far as I know, a base plane has been assumed, either at the level of the pavement surrounding the structure, or at some inches, more or less, below. The point we have now reached in this discussion is that the true base lines

x No. The floor of the S.E. socket dips slightly towards its S.E. corner; while the floor of the S.W. socket rises gently from the North & East edges to the lines, or ridges, which define the South and West limits of this socket. 88 The N.E. corner of this S.W. socket is about 2 3/8" to the deeper than the W. & S. outer limits of the socket (and this S.W. socket is not cut in the rock, but in 4 large unmet stones). [Part V.]

NEW MEASURES OF

should be very close to 9140.15. Let us see what facts are found in the building itself to sustain this view.

Within a few years four corner sockets have been uncovered, situated in two vertical planes intersecting each other, apparently at right angles, in the plane of the base. They are cut in the natural rock from four to twelve inches deep. The floor of every socket is well levelled. In area they range from thirty to one hundred and fifty square feet, designed evidently to mark the four corners of the building. So nearly do the lines of the socket-sides conform to a square-



||* In fig. 2 the decimal in each case after the plus or minus sign should be .65.

Theoretical mean depth of socket-floor levels below Platform is: —

29.7	4	88	4	18	etc.	Pyr. inches
29.7	7	86	2	05	etc.	Brit. inches

base that it would be difficult, without instrumental measurements, to detect the discrepancy. But if a line be carried around the base, connecting the outermost corners of the sockets (figs. 1 and 2), it will not form a true square. The diagonal, reaching from the South-east to the North-west corner, will exceed the other diagonal by more than twenty inches.* The distances between the corners, computed by Mr. Petrie, in inches (fig. 2), are as follows: The East socket-line, 9130.8; the North socket-line, 9129.8; the West socket-line, 9119.2; the South socket-line, 9123.9. To a casual observer, there is apparent an intention to set the structure true to the meridian of the locality.

As we examine the sockets more carefully in relation to one another, we find that the South-east socket is the lowest. The floors of the others in relation to it are higher, as follows: The North-east, 11.4 inches; the North-west, 7.1 inches; the South-west, 16.9 inches. These also are Mr. Petrie's measures. Some changes appear to have taken place in their levels during the past four thousand years. The opening of masonry joints in the interior of the building seem to bear witness of a settling towards the South and South-west. But taking the four socket-levels as they now stand, we may ask, Why did the architect lay out his edifice in this strange, unsquare manner? The superior skill and workmanship elsewhere exhibited forbid us to suppose that the irregularity, both in foundation and corner levels, is the result of

* The skew shown by the socket-line in figs. 1, 2, and 3 is greatly exaggerated in the diagram to illustrate what could not be seen in scale.

Petrie's measures: vertical distances of the 4 socket floors below the Pavement (or, rather, Platform) top surface: —

West-S.E.	=	39.9	Brit. ins.	Should be =	39.4	} mean depth below Platform is = 29.775 Brit. ins.
N.W.	=	32.8	" "	"	32.8	
N.E.	=	28.5	" "	"	28.5	
West-S.W.	=	23.0	" "	"	18.4	

accident or carelessness; neither could it have been a freak of economy. We find it difficult to escape the conclusion that the diverse levels of the sockets, and the varying distances between them, express the architect's intention. What was it? What could he mean by setting his corners and stretching his foundation lines out of level and askew?

It is possible that, in the following argument, conviction may not result from the evidence; but the close and manifold coincidences make it exceedingly difficult to disprove design. We may safely leave it to the common judgment of men to say whether the coincidences are accidental or even the result of carelessness.

While Mr. Petrie gives some admirable measures, he does not seem to have allowed due importance to the accuracy of the socket cuttings. It is not a little remarkable that the sockets themselves were covered with a pavement from twenty to thirty inches thick. Whether the covering was designed for their protection, we cannot say, although it has served this purpose wonderfully well.

The East socket-line given by Mr. Petrie is the longest, measuring $9130.8 + .65$ inches. We have already shown that the true base line should be very close to 9140.15 inches. Mr. Petrie's measure is more than nine inches too short. What does this mean? Is theory at fault? Does Mr. Petrie's fact prove that the Pyramid architect saw no connection between his work and the form and size of the earth? Let us see.

The geometrical base of a pyramid is a plane, per-

Platform
nearly 21"
thick

Should be:
9140.1938+
Brit. ins.

Socket
S.E.

Axis

Socket
N.E.

11.4
difference
in level

$\pi = 3.14159 \text{ etc.}$
x by diff in level = 11.4
12566370
31415926
314159265
 $\div 4 = 35.814156$
Petrie's E. Base = 9130.8
Extra base length = 8.95
3539

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THE GREAT PYRAMID.

True length of E. Base = 9139.75 at S.E. pocket level.

pendicular to its axis, and passing through the point farthest from the axis. The South-east socket is this point. All other sockets are nearer the axis, according to their elevation above the South-east corner. Mr. Petrie found the North-east socket 11.4 inches higher than the South-east socket. He gives the angle of altitude of the casing-stones as $51^\circ 52' + 2'$.^x Now if the North face be carried down, at this angle, to the level of the South-east socket (fig. 3), it will strike the level base line 9139.75 inches from the extreme corner of the South-east socket. Add to this about one-third ^(or about 1/3 of the) of the $\pm .65$, which Mr. Petrie allows for errors in triangulation and socket boundary, and we have a base line 9139.871 inches on the East side, at the level of the lowest socket. To take this as the length of the East base line is perfectly in accord with Mr. Petrie's measures and the principles of geometry.

x Angle assumed = $51^\circ 54' 14.3''$ i.e., the "N" angle

9139.871
9139.753
+ .118

What is the North base line? Mr. Petrie gives us the following estimate of the original finished sides, at the level of the platform or pavement surrounding the Pyramid: North side, 9069.4, South side, 9069.5, the mean is 9069.45; East side, 9067.7, West side, 9068.6; the mean is 9068.15. The ratio of the means is thus expressed, $9068.15 \div 9069.45 = .99985 +$. The ratio is the same at any other level. It thus appears that the base plane is ^{shorter} longer East and West than North and South, and that the ratio of its length to its breadth is the same as the ratio of the major to the minor axis of the earth's orbit. Taking for the East base line 9139.871 inches, we have for the North base line 9141.16 inches. While this difference may

mean of these two = 9140.5

* S.T. year-length = 365.2421986677311 days.

explain the fact that the diagonals of the base are not perpendicular to each other, it cannot affect any theory grounded upon a vertical section running North and South through the apex of the Pyramid, and having a base line of 9139·871 inches. However, it is quite within the limits of error allowed by Mr. Petrie to assume a square base of 9139·871, or a rectangular base (a conjecture that may need verifying) 9139·871 by 9141·16 inches.

Let us return to the socket-lines (fig. 1). What do they express? First the East socket line. The tropical year in mean solar days is 365.24224 .^{*} One fourth of one hundred years is 9131·056. Mr. Petrie's measure of the East socket-line differs from this by only one fourth of an inch $\pm.65$. May we say that this East socket-line records (in inches) the exact number of days in a quarter of a century?

Take the South socket-line. In the common reckoning of time the calendar year is 365 days, with one day added every four years, to make up the loss of the omitted fraction .24224. In one hundred years we have twenty-five, more nearly 24·25 leap years. Deduct 25 from 36524.224 . The remainder is 36499.224 . One fourth of this is 9124.806 .^{23.9} Mr. Petrie's measure of the South socket-line is 9130.84 .65. May we say that this line marks the number of non-intercalary days in a quarter century?

Take the North socket-line. The minor axis of the earth's orbit equals the major axis multiplied by .9998591. Multiply the East socket-line 9131·056 by .9998591, the product is 9129·769. Mr. Petrie's measure of the North socket-line is $9129.8 \pm .48$. May

we say that the North socket-line was taken from the known eccentricity of the earth's orbit?

Take the West socket-line. The minor axis of the moon's orbit in relation to the centre of the earth equals its major axis multiplied by $\cdot 998495$. Multiply this by the number of inches in the ~~East~~^{West} socket-line, the product is 9117·313. Mr. Petrie gives the length of the West socket-line 9119·2 inches $\pm \cdot 7$ for possible error in triangulation, and the additional error of $\pm \cdot 45$, resulting from the uncertainty of the socket boundaries, a total possible error on the West side of $\pm 1\cdot 15$. But from his azimuths, and the North-west to South-east diagonal, obtained from his North and East socket-lines, the West socket-line would be 9117·6. May we say that the West socket-line was taken from the known eccentricity of the moon's orbit?

Let us now take these theoretical lines and lay them upon the sloping faces of the Pyramid, beginning at the South-east corner (fig. 3), and taking this corner as the base of levels. The East socket-line, 9,131·056, would strike the sloping North-East corner of the Pyramid at the level of 11·22 inches above the South-east socket-floor. Mr. Petrie places the level of the North-east socket at 11·4 inches. The South socket-line, 9,124·806, would strike the South-west sloping corner at the level of 20·82 inches above the South-east socket-floor and the North and West socket-lines, 9129·769 and 9117·313, would meet in the North-west sloping corner within one inch of each other. Mr. Petrie gives 16·9 for the difference of level between the South-east and South-west sockets. Here is a

discrepancy of four inches between fact and theory. Our theory would imply a settling of the South-west corner to the amount of this discrepancy. Two evidences of settling are found. First in the pavement. Mr. Petrie found the pavement-line on the North side by the casing-stones nearly level from end to end. But midway on the South side it is 5·6 lower than on the North side. And on the West side, midway between the corners, it is 1·7 inches lower than the East side. This is a strong evidence of a settling on the South side towards the West end. Second, in the King's Chamber Professor Smyth found the East and West walls tilted towards the West, and the North and South walls tilted towards the South. The mean tilt is 6' 6". The walls show a fissure near the South-east corner. Every one of the huge stone beams that form the roof of the Chamber is broken and the floor twisted. Considering that the levels of the North and East pavement are but slightly untrue, we may infer that the settling began somewhat South and West of the axis and extended in the direction of the North-east and South-west corners. This would allow for a radial line of settling somewhat more than one-fourth of the diameter of the base. A change of 6' in the level of a base-line 2,500 inches long makes a difference of 4·37 inches. While this view of settling appears to account for the difference in the levels of the pavement, it also gives reason to believe that the South-west corner socket was originally not 16·9 inches, but very near 21 inches, above the level of the South-east socket. ^{originally} Theoretically it should be 20·8 inches higher

As a matter of fact, the S.W. corner of the S.W. Socket, is at the level of the levelled rock, and therefore the top surface of the Platform would be about 20·8 inches above the level of the S.W. Socket (i.e., at the S.W. corner of the Socket)

$$\begin{array}{r} 21 \\ 16.9 \\ \hline 4.1 \\ + .5 \\ \hline 4.6 \end{array}$$

$$\begin{array}{r} 20.8 \\ 16.9 \\ \hline 3.9 \\ + .5 \\ \hline 4.4 \end{array}$$

The floor of the S.W. Socket dip towards the N.E. corner.

i. e., the S. W. corner should be $21' + \frac{1}{2}"$ above the present level of the S. E. corner; and the S. E. corner itself should be $\frac{1}{2}"$ above its present level. The amount of error in the S. W. corner is therefore $21\frac{1}{2} - 16.9 = 4.6"$; and the amount of error of the S. E. corner is $.5"$. 95

Chap. III.]

THE GREAT PYRAMID.

than the South-east, and the South-east should be about half-an-inch above its present level.

While we suggest the foregoing interpretation of the socket-lines and levels, we do not forget the bearing that angular measurements have upon the truth of theories. With the exception of the angle subtended by the West-side, the differences barely exceed the limit of error allowed in Mr. Petrie's computation. The sum of the four theoretical socket-lines we have presented is 36502.944 inches. The sum of Mr. Petrie's measures, allowing 1.6 inch for error in computing the West-side, is $36502.1 \pm$ an average error of more than half-an-inch on a side. The theoretical diagonal from North-west to South-east socket corner is 12916.21 inches. Mr. Petrie's measure differs from this by $.59 \pm .9$ of an inch.

These coincidences are at the least remarkable. That they are related to the design of the architect, we perhaps cannot farther demonstrate. The probability that they are accidental diminishes in a geometrical ratio as the number of them increases.

We proceed now to apply the properties of the cycloid to some other measurements of the Pyramid. The diameter of the generating circle of the cycloid, whose base is 9140.15 inches, is $9140.15 \div \pi = 2909.4$ inches. Twice this diameter is 5818.8 inches. In a Pyramid whose base is 9140.15 inches square, and altitude 5818.8 inches, the vertical angle of base and sides is $51^\circ 51' 14.3''$. Wherefore, by the cycloidal theory of the construction of the Pyramid, as here developed, we

5818.8
 45.8188
 5812.9812

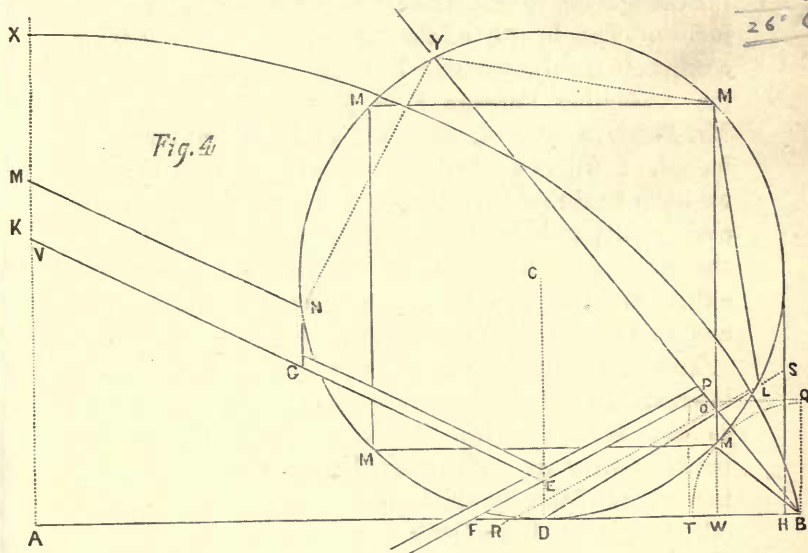
5813.00929097 *Pyg. ins. true vert. height.*
 5818.82811908 *Brit. ins.*

have, 9140.15 inches for the extreme base-side, and 5818.8 inches for the extreme height. A vertical section of a pyramid, through its vertex and at right angles to one of its sides, is a triangle. Let the base of this triangle be 9140.15 inches, and the altitude 5818.8 inches. Let a circle whose circumference is 9140.15 inches be set on the end of the base and rolled along till the line that connects the point L (fig. 4), describing the cycloid, and the point of contact between the circle and the base-line, makes, with the base-line, the angle BDL $29^{\circ} 58' 42''$. The latitude of the Pyramid is $29^{\circ} 58' 51''$ with a possible change of $56''$ in 4000 years. In this circle draw an inscribed square having one side parallel to the base of the triangle. One side of this square intersects the hypotenuse of the triangle at O. Produce the line DL till it meets the side of the circumscribed square at S, and draw SO. This determines the altitude of the passages of the Great Pyramid, $26^{\circ} 19' 34''$ nearly. Mr. Petrie gives the altitude of the axis of the Entrance Passage, $26^{\circ} 26' 42'' \pm 20$, and that of the Ascending Passage and Gallery together, $26^{\circ} 12' 50''$; the mean of these is $26^{\circ} 19' 46'' \pm 20''$. Supposing the latitude of the Pyramid to have been $29^{\circ} 58' 46'' \pm 5''$, the difference $3^{\circ} 38' 56'' \pm 20''$ between the latitude and mean passage was the apparent polar distance of Alpha Draconis, as seen through the telescopic passages of the Pyramid 2140 B.C. If it was the intention of the architect to produce a reflecting telescope he would naturally have made the altitude of the Entrance and Ascending Passages the same. Here, again, is found reason to believe that settling South-

*Date of
 creation of
 St. Py.
 2140 B.C.*

$26^{\circ} 20' 16''$ Descending
 $26^{\circ} \quad 6.44$ Ascending
 $2 \overline{) 52.27.00}$
 $26.13.30 = \text{mean angle}$

ward to the extent of about 6' has taken place. The effect of such a settling would be to change the altitude of the passages, increasing that of the Entrance Passage by about 6', and lessening that of the Ascending Passage and Gallery by the same amount.

$$\begin{array}{r} 26^{\circ} 26' 22'' \\ \underline{6' 06''} \\ 26^{\circ} 20' 16'' \\ \underline{6' 06''} \\ 26^{\circ} 12' 50'' \\ \underline{6' 06''} \\ 26^{\circ} 6' 44'' \end{array}$$


It would also increase the horizontal distance between the beginning of the basement sheet and the South wall of the Gallery by about 3 inches. It would also lower the level of points along the passage floors; and the more as the distance from the entrance increases. And this is just what the modern measures show in relation to the level of the South-east socket floor. The altitude of I, the beginning of the basement sheet of the Entrance Passage, is equal to the line MB drawn from the foot of the triangle to the nearest

corner of the inscribed square. It is 652·91 inches. This agrees with Mr. Petrie's altitude of the beginning of the basement sheet above the level of the South-east corner socket within half an inch. The horizontal distance of this same point from the North base-line (at the level of the South-east corner socket) is 652·91 inches. The length of the basement sheet from this accurately fixed beginning I to the line of the floor of the Ascending Passage E is $(10\pi)^2 = 986\cdot96$ inches. Mr. Petrie and Prof. Smyth give it as 986 or 987 inches. It will be observed that in our scale of measures we have used the British inch and British feet interchangeably, and the British mile of 5,280 feet. From the relation of the inch to the foot and mile thus exhibited in Pyramid lines we conclude that the architect used these measures in laying out his work.

The following theoretical lines in fig. 4 may be of interest:—2 AB = 9140·15 or 9139·871; either measure, as well as those given below, will come within the limits of error allowed by Mr. Petrie. AX = one-half the height of the Pyramid; WB = $50\pi^2 = 493\cdot48$; IE = $(10\pi)^2 = 986\cdot96$; EG = $(100\pi)^2 \div 8^2 = 1542$, the floor-line distance from the floor of the Entrance Passage to the intersection of the overhanging plane of the North wall of the Gallery with the floor of the Ascending Passage; GK = $600\pi = 1884\cdot95$. The meeting of the Generating Circle, the Gallery, roof, and wall, in the angle of the inscribed pentagon at the point N may suggest some connection between geometry and the law of Pyramidal construction.

We have not yet discovered the whole truth of this marvellous edifice. Although it has been terribly

1815·25
68
188 3·25

shaken and wrenched, and men may criticise some of its distorted lines, it cannot reasonably be denied that the architect had a wonderful knowledge of astronomy, geology, and pure mathematics.

H. G. WOOD.

x.
Note:

This proposed re-measuring expedition, though well thought of, was never undertaken. Instead, Dr. John and Morton Edgar, of Glasgow, Scotland, journeyed to the Great Pyramid in 1909, and after clearing out the debris from the Descending Passage, measured this subterranean part carefully, for the first time (Petrie did not measure the Desc. Pass. carefully). In 1912 Morton Edgar again visited the building & measured carefully the upper Well-mountain in the Grand Gallery. These two volumes of "Great Pyramid Passages" in 1910, and 1913 respectively (Dr. J. Edgar died before the publication of Vol. 5, in 1910). Morton Edgar revisited the Great Pyramid a number of times, in 1914, 1925 - up to 1938 (seven times after his 2nd visit in 1912). In 1925 the Egyptian Government re-surveyed the Great Pyramid, after clearing a large part of the North base, and sections of the other three bases. In 1925-1938, Morton Edgar persuaded the Egyptian Government to complete the clearing of the North and South bases. These two base-lines were again carefully measured. In 1925-26, the Egyptian Government thoroughly cleared the Sphinx, and the Lower Temple of the Second Pyramid & all the causeway connecting the two Temples of the Sphinx, and also the Temple of the Sphinx, which lies directly to the East of the Sphinx.

A P P E N D I X.

NO. I.—PROSPECTIVE AMERICAN EXPEDITION TO RE-MEASURE THE GREAT PYRAMID.

(From *The New York Times*, Monday, January 28, 1884.)

WHAT IS TO BE ACCOMPLISHED BY MEASURING THE PYRAMIDS. INACCURACY OF OLD MEASUREMENTS.

CLEVELAND, January 26.—The project so long held in mind by the President and some of the leading members of the International Institute for Preserving and Perfecting Weights and Measures of sending a well-equipped body of scientists to Egypt for the purpose of making such an examination and measurements of the Great Pyramid of Ghizeh as has never been given it, and for uncovering the Pyramid and the Sphinx to their foundation, is now in such shape that its actual accomplishment may be looked for in the near future. As the purpose of the proposed expedition is little understood, and as no authoritative statement has been made covering that point, *The Times'* correspondent called on Mr. C. E. Latimer, President of the Institute and one of the leading engineers of the country, who kindly explained the purpose in full.

"There have been," said Mr. Latimer, "various propositions from the members of the society looking to such an expedition and urging the great importance of it in view

of the diversity of measures made by previous explorers and the great diversity of theories in relation to the symbolism, especially of the Great Pyramid and the Sphinx. There have been a number of measurers in Egypt, the most important one of whom was John Graves, an astronomer at Oxford, who, 250 years ago, took a 10-foot rod, graduated to a thousandth of a foot, and went to the Great Pyramid and measured most particularly the granite Coffin in the King's Chamber. He seemed to give the most particular attention to this remarkable box, which some, without proper knowledge, called a sarcophagus.

“Other measurers followed, notably the French savants in the time of Napoleon's war in Egypt in 1799. They measured the base and the interior of the Great Pyramid most particularly. Then followed Colonel Howard Vyse in 1837, who made his researches at his own expense. Subsequently the most notable and accurate measures were made by Prof. C. Piazzi Smyth, Astronomer-Royal for Scotland, who went there at his own expense and remeasured the interior, and also much of the exterior—the most remarkable of all the measurers that have ever been to the Pyramid, and the most accurate, having taken with him the finest instruments of precision known, particularly in astronomy. In all these measures the lengths of the base line have varied by different measurers from 9,110 inches to 9,168 inches, Piazzi Smyth having settled upon 9,140 inches, as being the true theoretical base, which gave, by multiplying by 4, one hundred times the number of days and fractions of a day in the year, nearly. Howard Vyse and the French savants agreed in 9,168 inches as the right base at the lowest socket, but now comes William Flinders Petrie, a young engineer, who also went to the Pyramid of his own accord, and took new measures, and declares that the base sides are not either as found by the French, or by Howard Vyse, or by Piazzi

Smyth, or by any one else that preceded him; but one thing he does prove, that the level of the South-east socket gives 9,139·871 inches, which is precisely what the mathematicians of the Society for Preserving and Perfecting Weights and Measures, have declared it ought to be at one particular marked depth.

“All these measures and measurements, with the exception of the French, have been made by private enterprise. To overthrow the base line is to overthrow all the theories built upon the Pyramid’s size and proportions. Mr. Petrie has been sustained by the Royal Society of London, which society is inimical to Piazzi Smyth, and it has helped Mr. Petrie to publish his book, having given him 500 dollars for that purpose. Mr. Petrie has likewise attempted to overthrow many of the theories of Piazzi Smyth, and set up therefor new ones of his own. In the midst of all these conflicting questions of length and breadth, and height and depth, there arises in the minds of the members of the International Institute for Preserving and Perfecting Weights and Measures, the importance of having a commission go to the Pyramid with abundant means, not only to settle all these vexed questions of measures once for all, but to excavate and lay bare the foundations all about the Pyramids and the Sphinx, and probably to disclose for the first time for 3,000 years, the appearance of the ground thereabout—possibly to unearth many objects of archaeological value, which will enable the students of this stupendous monument to arrive at the truth, and making it disclose the truths which it has for so many thousand years held concealed in its prophetic slopes. The members of the Institute generally do not believe in the tomb theory. They are too well aware of the mathematical, astronomical, chronological, and cosmical knowledge that it contains. The French have measured it, the Italians have had a

4. The Harvard University of Boston Mass., did send out, and maintains, an Expedition headed by Prof. George Reisner (since died). But though Reisner had his "Camp" for many years close to the Pyramids of Gizeh, and though he excavated the upper Temples of the 2nd & 3rd Pyramids he never spent any time, 104 nor any dollars, at the ^{NEW MEASURES OF} ^[App. No. 1.] ~~re survey of the Pyramid base in 1925~~. Reisner however devoted much time, and a large amount of money, excavating the numerous mastaba tombs in the

measurer there, the English, more particularly, have measured it, but no American expedition has ever yet been sent out, and we believe that a monument, which is the symbol of the reverse of the Great Seal of the United States, should also have the attention of the citizens of the United States, and therefore believe that it is important that a commission should be sent out from here, taking also one man from England, and one from France, wherein the Society has members, comprising not less than five scientific men equipped with the necessary instruments and tools, both for boring and for lighting, and once for all determine in a proper and thorough way, all questions upon which there is now any difference of opinion. The object is worthy, not only of the philanthropy of our citizens, but is worthy of the attention of our Government, because we feel that this monument is the work of our forefathers, and that we are the undoubted descendants of those who built that Pyramid, and that it is our duty to investigate and understand the wisdom contained therein.

"One of the most earnest men on this subject in our country, the former Governor and Chief Justice of Iowa, ex-Governor Lowe, a member of our society, at one time asked me, as President of the Society, if I would make all my preparations to go to Egypt, taking such persons with me as I might feel disposed to take, provided the means were obtained. I assented, with the understanding that a leave of absence could be granted me. He shortly afterward wrote me, previous to the breaking out of the war in Egypt, that he thought that the means could certainly be secured, and asked me to make my preparations to start, but the war came on and the opportunity did not present itself at that time, but the mind of this gentleman had always been fixed upon the importance of carrying out this idea, and almost his dying words were that we should not

West and East cemeteries. In 1925 his assistants found the tomb-shaft of Khufu's mother in the East Cemetery, opposite, and near to the East base of the Great Pyramid. The relics found in this tomb are now in the Cairo Museum. Reisner does not think that Khufu's mother was buried here originally, but was re-interred from another tomb further South.

fail under any circumstances to accomplish it. He hoped that the Government of the United States would also feel it of sufficient importance to make an appropriation for the purpose as a scientific object. Other members of the society have urged it, and now comes an astronomer in England who offers one of the best telescopes in the world and his own services (and he is vouched for by the Astronomer-Royal as being a most competent person), free of expense, only requiring us to transport it and himself from England to Egypt and back, thus insuring us one member of the expedition from England, without other cost than transportation. Mr. Chauncey Andrews, one of our members, a very wealthy Youngstown gentleman, sent me word that he would be glad to aid in raising the money for this purpose, upon which I wrote him a letter which was published in the newspapers at the time. It was subsequent to the publication of this, that a gentleman of Cleveland offered to be one of ten to raise 100,000 dollars for this purpose.—*and yet nothing came of all this!*

To many persons it will be an enigma why we should go and measure an Egyptian monument—why we should be so anxious to raise funds to go to that far-off country to measure a Pyramid built certainly not less than 4,000 years ago. But let them note for a moment that the weights and measures which have been handed down to us from thousands of years ago by our forefathers, and which are not, as Professor Barnard, of Columbia College, says of them, the result of 'accident or caprice,' but are the true cosmical relations in their original units, which we possess, and which are interwoven into every relation of our lives and work, are now proposed to be utterly subverted and a system not yet 100 years old introduced in their stead, which is not truly cosmical, as admitted by themselves, although at first supposed to have been so.

Let them note that France, Germany, Austria, Italy, Spain, Egypt, Turkey, and now Mexico—every country overcome

The late Prof. Geo. Reissner, head of the "Expedition" to the Monuments of Egypt from the Harvard University, Boston Mass, U.S.A., had under his mandate or permit the Great Pyramid; and yet he did not measure it nor do any work at it. In 1924 the Survey Department of the Egyptian Government did some debris clearing at the four base 106 thus and published their findings in their App. No. I. Survey Paper No. 39, practically confirming Prof. Petrie's survey, though charging him with making certain mistakes.

by the Napoleon Dynasty—have adopted this French measure, and the only three great countries in the world standing out against it to-day are the two of the Anglo-Saxon race and the Empire of Russia, and that in our own country we have a certain set of closet philosophers who are working with all their might, both in the Government offices and elsewhere, to overthrow the measures of their forefathers, which would throw this country into inextricable confusion. And let them note that we have the best evidence by both examination and calculation that the Great Pyramid of Ghizeh contains within its sides and in its proportions a perfect system of weights and measures related to the earth and to the universe, the units of which have been handed down to us, although we admit that much rubbish has been thrown upon them by varying tables.

They will then understand the importance of an expedition to Egypt, and the settling of all questions of difference between the various measurers. And further, we believe that this monument does not only contain all that we have said, but that it is an epitome of astronomy, and an epitome of chronology of the races; indeed, that it is a Bible in stone, a monument of science and religion never to be divorced, but standing to-day in the midst of Egypt and on the border thereof as a 'pillar therein and an altar to the Lord,' according to Isa. xix. We believe that the patriotism and philanthropy of our country will respond to the appeal and will furnish the means necessary for this grand object; and when the money is raised it is to be understood that no salaries are to be paid. It is not a place to gain a salary, but simply for the accomplishment of a great labour of love in which the expenses only of the parties must be paid, except where the workman is to be paid for his labour."

Mr. Latimer added that the work could be done thoroughly and completely for 100,000 dollars, but that great results would be possible from the expenditure of one-fourth of that sum.

And yet, here we are in 1912/20th March 28 years later, and the American Expedition has not been here.

But even now seems now to recognise the metric system.

In 1909 my brother Dr. John Edgar, and I, Morton Edgar, spent a few weeks at the Great Pyramid measuring & photographing. In 1912 (Dr. Edgar died in 1910) I reprinted the Pyramid & continued my measuring & photographing; publishing my Vol. II of Great Pyramid Passages in 1913 (Vol. I published at the end of 1910). In 1914 I spent a week at the Pyramid, & then 107 in 1925. App. No. II.] THE GREAT PYRAMID.

I paid my 4th visit, and it was during this 4th visit that I requested the Egyptian Antiquities Department to continue excavating the North side of the Great Pyramid, and in 1926, my 5th visit, this north side was completed, also during my 4th visit (in 1926 early part), I persuaded the Egyptian Government to start on the debris-clearing on the South base-line. They did half of this side; and in 1938 during my 9th visit, I had the remaining half cleared (at my personal expense). In 1925 during my 4th visit, I got the Egyptian Government to clear out all the debris from the interior of the Great Pyramid - the Subterranean and Queen's chambers, particularly the North air-channel of the King's chamber.

APPENDIX No. II.—REV. DR. ALEX. MACKAY ON THE FULFILMENT OF PROPHECY IN THE YEAR 1882, IN A LETTER TO C. PIAZZI SMYTH. (Reprinted from the Banner of Israel of August 8th, 1883.)

I CONTINUE to feel a very deep interest in everything relating to the Great Pyramid, and read all I can lay my hands on that has any bearing on the subject. There is a Major O—— here, who is also an enthusiast in all things belonging to the Pyramid. He has lately lent me a couple of little volumes, which I have just finished reading—viz., (1) "The Tower of Egypt; or, The Types and Chronology of the Great Pyramid." By A. R. G. London: Partridge & Co.; (2) "The Origin and Significance of the Great Pyramid." By C. Staniland Wake. London: Reeves & Turner. They are able, and eloquently written; this they have in common, but they wholly differ in everything else.

The former work is by a devout believer in Scripture, and also in the divine origin of the Pyramid. He professes to have made very important discoveries, especially in the Grand Gallery, and to have found a most important new "key," which he believes will lead to many more. It is not for me to hazard an opinion on the merits of these quasi discoveries; but I do consider that his book will require a full notice in the forthcoming new edition of "Our Inheritance."

The other book, though displaying extensive learning, is by a man who readily believes anything and everything that

* So that "Judge" Rutherford of the "Watch Tower & Bible Society" of London & Brooklyn is not the originator of his claim that the Great Pyramid is of the devil! "Judge" Rutherford was dead in 1942, the president of the W.T. Society, of which the late Pastor Charles T. Russell (who died in 1916) was the founder. Pastor Russell thoroughly believed with Prof. C.P. Smyth, in the divine origin of the Great Pyramid. "Judge" Rutherford had nothing in common with Pastor Russell, but anyone has said against the supernatural in the Great Pyramid, but who is deaf as an adder to all that has been proved in support of its high origin. Its astronomical, or, rather, its astrological character, is graciously allowed. But, much blinder than Pharaoh's magicians, he cannot see in this marvellous monument "any trace of the finger of God." His final result is, that it is an ancient astrological temple, "erected in honour of the god Seth, the Agathodæmon of the ancient world." The plain English of this is, that instead of being "an altar to the Lord in the land of Egypt," as so many devout and learned investigators take it to be, it is, in fact, a grand temple erected to the devil! *

To me it has always been a cause of rejoicing that those who believe in the sacred and scientific nature of the Great Pyramid believe also in the Bible; while very many of those who hold it up to modern ridicule, do at the same time doubt the Scriptures, which, according to our divine Master, "cannot be broken." But as the end of the age is drawing near, the world is fast preparing for the advent of the Man of Sin, "whose coming is after the working of Satan; . . . and for this cause God shall send them strong delusion, that they should believe a lie" (2 Thess. ii. 11). The whole of this wonderful chapter was in my mind while perusing this very wicked little book. He who really sowed these tares in the field is not Mr. Staniland Wake, but an older adversary, who, in spite of your exposure of him in the BANNER and elsewhere, still considers himself, to this day, unanswered.

The year 1882 has now come and gone, and yet nothing so very great has happened as to mark the end of the Christian Age. This, however, though it affords merriment to our opponents, has not in the least shaken my faith in the Pyramid. The absence of such an event rather confirms my faith in it; for I find that, in the sacred history, no single event marked the end of one age and the commencement of

NEW MEASURES OF [App No. II.]

Patrice

another. In every case, I find a sort of neutral period separating each new dispensation from that which precedes it. This, in plain fact, accords with what we observe daily in Nature. The light of day does not instantaneously succeed the darkness of night; for between night and day the all-wise Creator has interposed the morning dawn, beginning with the faintest glimmer of light, then gradually and slowly increasing it till the glorious sun exhibits its full-orbed splendour.

Again, when contemplating the rainbow, one can easily count seven distinct colours; but however narrowly such a one looks, he will not succeed in discerning any actual *line* separating one colour from that nearest to it on either side. There is, indeed, no such line, for the different colours gradually and gracefully merge into each other. It is precisely similar in regard to the seven dispensations—the Edenic, the Antediluvian, the Noachian, the Patriarchal, the Levitical, the Christian, and the Millennial. In every case, they silently and imperceptibly glide into one another. For example, if I were asked in what year, or on what day, the Christian dispensation began, I could not tell. It might be supposed to commence with the incarnation of our Lord, or with His birth—His baptism—His death—His resurrection—His ascension—or the outpouring of the Spirit on the day of Pentecost. The thirty-three years during which all these events transpired cannot be said, with any truth, to belong properly and only to the Christian dispensation, for they are all, except the first and the last, events in our Lord's earthly life, and we know that our Lord was "a Minister of the circumcision"—*i.e.*, of the legal economy, and not of the dispensation of the Spirit. Yet they all have a direct bearing on the present age, and, in fact, prepared for it. So much so, indeed, that if any one of the events referred to were absent, the dispensation of the Spirit could not possibly

have been ushered in. These thirty-three ^{and a half} years formed, therefore, the twilight, or early dawn, separating the long night of the legal economy from the glorious Gospel day, and cannot be reckoned as an essential part of either, by and in itself alone. They all occur in the *neutral zone* formerly mentioned; the incarnation forming the earliest and all but invisible streak of the dawn, and the day of Pentecost the auspicious moment when the sun of the Gospel day began to emerge from beneath the horizon.

Now, to come to the Great Pyramid, and keeping our illustration in mind, my notion is that the year 1882 marks the *commencement* of the neutral zone. It was a year big with events in the world's history. The real magnitude, however, of those events cannot as yet be determined. I refer to the Phoenix-park murders, the Irish Coercion Act, the massacre of Christians in Alexandria, the subsequent bombarding of that city, the battle of Tel-el-Kebir, issuing in the virtual Protectorate of England, with a governing and resident army, over the land of the Pyramids, the end of the Sultan's control there, and the final extinction, by the Italian civil power, of the very last scrap of the once universal temporal dominion of the Popes of Rome.

The next event *may be* the arrival of the day when the Gospel of the Kingdom shall have been preached in all nations, as a testimony on God's part, and a protest against the enmity of the world, but not issuing in the conversion of the nations. He alone knows the future; but it seems clear from Scripture that the next event after that will be the coming of the Lord for His own, in order to rescue them from the "great tribulation" that will then immediately set in, a tribulation the many stages of which are graphically delineated in Revelation iv. to xx.; lastly, or after that, the return of the Lord from heaven with all His saints, when Antichrist shall be caught and hurled alive "into his own

Rev. 11:

in 1929
the Pope
again became
a king in his
own right.

But our
Lord has
already
come, in
1874, &
the sleeping
saints began
to be raised
in the First
Resurrection
in 1878. The
plagues ended in 1914, the date
marked by the South end of
the Grand Gallery
Morton Edgar
1/26th Dec 1942)

False

place," and the Lord shall inaugurate His glorious millennial reign over the entire earth.

I hope you will pardon the fulness with which I have entered into these things. My object is to vindicate those noble men who, in their painstaking investigations into the Great Pyramid, have perhaps over-much emphasised the year 1882, and thereby incurred much senseless ridicule from certain short-sighted, ungodly scientists of these latter days.

NOTE BY THE EDITOR OF B. I.

good!
The above contribution refers alike to the sacred theory of the Great Pyramid and to the chronology of these our times, both having their reference to Biblical prophecy. It may be considered all the more valuable as a most independent confirmation of our own general Identity views, so far, because we find that the eloquent and devout author is still outside the pale of Identity belief. "'Tis true, 'tis pity, and pity 'tis 'tis true;" for he would *therewith* have arrived at his best, greatest results more quickly and more easily. For instance, who that has been reading the BANNER does not remember various papers in numbers now long past, emphasising the *two lengths* of the Grand Gallery?—the first, 1882, *through* the Great Step, and the second, 1910, *over* the Step; the former number being considered the beginning, and the latter to be the completion of the transition period from the present Gospel dispensation to the next that is to be. So that the question is by no means, Has the Christian dispensation come to an end in the year 1882? but, Have there occurred in that year events which may be taken as marking "the beginning of the end"? And in that case, believers in the Identity, as well as other parts of the Bible, will be enabled thereby to see the force of what has occurred more clearly than others, and to answer most decidedly, "They have." See what Dr. Mackay himself has catalogued for it.

APPENDIX No. III.—EDITOR OF “BANNER OF ISRAEL” ON
“THE SAVIOUR AND A GREAT ONE” OF ISAIAH xix. 20.

(Wednesday, August 8, 1883.)

WE know who spoke the words which stand at the head of this paper. We know also the country regarding which the prophecy was uttered. The only puzzle is, who “the saviour and the great one” is whom God declares He will send to deliver the Egyptians; and when the deliverance they are to work out for the Egyptians is to take place. That epoch in the history of Egypt is clearly connected with the time when the Egyptians “shall cry unto Jehovah because of the oppressors,” and before the time when the Gospel message shall have been proclaimed to, and accepted by the land of Egypt (ver. 21). We think the events of the past two years clearly indicate that this prophecy is under fulfilment at this very hour! The Egyptians have been ground down under the most grievous iron oppression and despotism. The Fellaheen of the land of the Pharaohs have cried in their deep misery in such wise that the God of Israel, the Lord Jehovah, has heard their cries, and sent them “a saviour and a great one” “to deliver” them. That “saviour and great one” is British-Israel, “the great and mighty nation” of God’s promises to Abraham (Gen. xii. 2, xviii. 18). Facts tell us that we are correct in this surmise, and the prophecy links the time of Egypt’s dire distress and her deliverance with the uprising of the strong interest in “God’s altar, sign and witness” in “the midst of the land of Egypt, and at the borders thereof;” an interest felt only in the heart

of that great and mighty nation which is the destined saviour and great one appointed to bring Egypt spiritually to Christ for healing (ver. 21).

But how are we to prove this? Let the *Times* newspaper testify to the truth of the fulfilment. We want no better commentary on the prophetic word than the *Times*. The historian Gibbon is the best teacher regarding the fulfilment of the Apocalypse; and the *Times* is our best guide regarding the prophecies which deal with these the last days of the Christian Dispensation. Let us hear what the *Times* said was the state of Egypt before we lately interfered, and what it is to-day now that we have become its suzerain, protector, "saviour," or "deliverer." Writing on June 11, 1883, the anniversary of the massacre of Alexandria the year before, the leading journal said:—

" . . . Arabi continued to act as though he had nothing to fear, either from the censure of the Sultan or the interference of any European Power. The riot at Alexandria had emptied the city of Europeans, had paralysed commerce and industry, and, combined with the terrorism established by Arabi, had practically obliterated all the progress which Egypt had made in half a century. The so-called national movement had done nothing but strangle the industrial life of the nation, and hand the country over to a military adventurer, who might at any moment deliver it back to the Sultan, to be dealt with as only Turks can deal with wealthy and fertile provinces.

"Such was the condition into which Egypt was fast drifting when the riot at Alexandria brought matters to a crisis. England, it is true, had long realised what was necessary, but was hampered in the endeavour to give effect to her views by the hesitation of France, and the susceptibilities of the Porte. At last, however, the time came when hesitation was no longer possible, unless Egypt was to be

irretrievably ruined, and the vital interests of England sacrificed. The bombardment of the forts at Alexandria drove Arabi into open rebellion, and as the Khedive could not subdue him and the Sultan would not, it became necessary for England to do so. Then, indeed, as soon as the nettle was firmly grasped, it was seen how little formidable it was. France acquiesced with fairly good grace in a course of action which practically secured her substantial interests, though in a manner which, by her own default, was necessarily somewhat painful to her *amour propre*. The Sultan, like a good Mussulman, acquiesced in the inevitable, all the more readily, perhaps, because the documentary evidence of his secret revelations with Arabi had fallen into the hands of the English Government, and enlightened it as to its real purposes. The rapid collapse of Arabi showed how weak was his hold on the people of Egypt, and how idle his pretension to pose as a national leader. In its material condition Egypt is now almost what it was before ever Arabi first defied the authority of the Khedive in the Autumn of 1881; while its political and moral condition is almost infinitely better. Order is secured by the presence of the British troops, and progress is guaranteed by the authoritative supervision of competent Englishmen in every department of the administration. The judicial institutions of the country—long its scandal and its bane—are undergoing re-organisation at the hands of Sir Benson Maxwell, and before long Egypt will enjoy what she has probably never enjoyed before in modern times, a prompt, cheap, and impartial administration of justice. In fact, if we compare the condition of Egypt now with what it was a year ago, it is hardly possible to realise that it is the same country. Anarchy and violence have been replaced by tranquillity and reviving content, confusion by order, turbulence and oppression by discipline and justice, despair by

hope, desolation and destruction by restored industry and the assurance of steady progress. We may congratulate ourselves, at any rate, that all this has been the result of English intervention, even if the retrospect compels us to admit that it might have been secured at less cost to ourselves, and with far less suffering to Egypt if we had resolved to do at the outset that which we found ourselves compelled to do in the end."

The reader may see how wretched was the condition of Egypt a year ago; for the rebellion of Arabi was but the outcome of years of previous tyranny and misery suffered by the Fellaheen, or peasantry of Egypt. But to-day we see "the saviour and deliverer" at work, striving alone, but with God's blessing, to restore order, good government, justice, sound fiscal laws, contentment among the people; and doing it alone, unaided, unthwarted too, by Europe, Turkey, and the Egyptians themselves. It is a wonderful sight, and an exact accomplishment of the prophetic message to these times in Isa. xix. 19—25

The present being thus clear and satisfactory as an indication that this people of ours is God's "great and mighty nation" Israel, we see how hopeful is the future condition of Egypt and the Egyptians. "Jehovah shall be known to Egypt, and the Egyptians shall know the Lord in that day, and shall do sacrifice and oblations. Yea, they shall vow a vow unto the Lord; and shall perform it. And the Lord shall smite Egypt; He shall smite and heal it. And they shall return (*even*) to the Lord, and He shall be intreated of them, and shall heal them." These are words of comfort for Egypt, and of great encouragement to the missionary societies which shall now undertake the evangelisation of that dark and miserable land. The Egyptians are to become "God's people," on a par, in fact, with His people Israel, an honoured, righteous, saved, and blessed nation. "Blessed

be Egypt, My people," is the promise in ver. 25, and as God promised, so we feel sure will be the event. Undoubtedly the consideration of this subject by those who have cared nothing yet about prophecy must be blessed to such. For hereby it is known that God exists, that His people Israel are extant in the world, and that all His promises to Egypt must be fulfilled, and are being carried into effect one by one, to the great blessing of that favoured people, and to God's glory.

Behold then another proof of the truth of God's Word, and of the literal fulfilment of His promises and curses. Hence the infidel may learn that there is a God above who rules on earth, a hell, a heaven, and in himself a soul to save or lose; and hence the Christian may rejoice to see another proof of the love and faithfulness of God to His people, Ten-Tribed Israel, from the beginning even unto now.

APPENDIX NO. IV.—NOTICE OF THE NEW METROLOGICAL INSTITUTE IN AMERICA.

INTERNATIONAL INSTITUTE FOR PRESERVING AND PERFECTING WEIGHTS AND MEASURES.

*Was organised at the Old South Church, in Boston, Nov. 8, 1879.**

Charles Latimer, President, Cleveland, Ohio.
J. S. F. Huddleston, Vice-President, Boston, Mass.
Lucian I. Bisbee, Secretary, Boston, Mass.
G. R. Hardy, Treasurer, Springfield, Mass.

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* As characteristic of the work and principles of this Association it may be mentioned that, after a public discussion the principle was authorised that its

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N.B.—The opinions of the members of the Institute upon the Inspirational theory of the Great Pyramid are varied.

No person on the list of members exclusively stands committed to any one opinion advanced by any member, or any officer of the Institute, or any Auxiliary Society. We work for a common end—the preservation of our hereditary unit of weights and measures. We seek, with all our soul, one thing—THE TRUTH.

A bi-monthly journal is also published, whose title-page, and the contents of each number that has appeared thus far, are as follows:—

meetings be "opened with prayer, invoking the blessing of God upon the work of the Society."—C. P. S.

THE INTERNATIONAL STANDARD.

A MAGAZINE

DEVOTED TO THE PRESERVATION AND PERFECTION OF THE ANGLO-SAXON WEIGHTS AND MEASURES, AND THE DISCUSSION AND DISSEMINATION OF THE WISDOM CONTAINED IN THE

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All in favour of advancing truths most absolute, as portrayed in the revelations of the Great Pyramid of Egypt, and of the success of the Society in preserving inviolate the Anglo-Saxon weights and measures, will kindly communicate with the President, by whom also subscriptions, donations, and communications will be gratefully received, at

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APPENDIX No. V.—A MESSAGE FROM KHARTOUM.*

There came along the wire lately a sad and ominous message from Khartoum, telegraphed to the *Times* on March 23, 1884, and published on April 1 in London. The words were: "We are daily expecting British troops. We cannot bring ourselves to believe that we are to be abandoned by the Government. Our existence depends on England." Surely never was so pitiful a message sent by an Englishman belonging to one of this proud nation's ambassadors, to the people and to the Government which sent the latter forth to pacify a province! There is indeed no hope that this country will send General Gordon British troops; and though the existence of the General may depend on England, there is no doubt that rather than incur an immense expense; rather than cause the death of soldiers in the expedition; and rather than exercise sovereignty of this kind in Egypt, the Government of England, as now constituted, will let General Gordon, and the party of two British subjects with him, perish in Khartoum.

The *Times* declared, on April 1, that reports to this effect were rife, but appealed strongly to the Government to prove by deeds, and not by words only, that they would do something to rescue a gallant, noble-hearted, high-minded man whom they had sent out themselves, as England's representative, under the implied guarantee that in the last extremity they would not let him perish. Khartoum does not seem in any present peril, nor is there fear that it will be

* From the *Banner of Israel* for April 23, 1884.

surrendered to its enemies: but General Gordon is surrounded by traitors, and by enemies, open and concealed. It is needful, however, that a policy of some sort should be declared by Her Majesty's Government, and we hope not many days hence to hear that a resolution has been arrived at by the Cabinet declaring that the Protectorate of Egypt has been assumed by the British, and calling afresh on all provinces there to obey British law and British force. Will this, however, be done by Mr. Gladstone? Nay, would it be done willingly by the Conservative Party if they were to come into power to-morrow? We believe neither of the great parties in the State would be willing to take this momentous step. Why not? Because such an act would be a deliberate commencement of the partition of the Turkish Empire, and the Government of this country would, and naturally does, shrink from the awful responsibility of taking the first step in that direction.

Mr. Gladstone is a statesman of far-seeing ability, and he knows as well as anyone does that the seizure of Egypt and the Soudan by Great Britain, and the assumption of its permanent, absolute Protectorate, would be an act hostile to Turkey, and a distinct commencement of its partition. The jealousy of one another, which consumes the Powers of Europe, restrains them now from falling upon the possessions of Turkey. The naval power of Great Britain is felt to be a strong restraint besides. The refusal of the British to permit the partition of the Turkish dominions certainly implies that she will herself be true, and will on no account allow herself to benefit by the decay of Turkey; still less that she will, as many of the Powers desire, set the example by first falling on the Egyptian portion of the spoil. This, we believe, actuates Mr. Gladstone and the Liberal Cabinet, and apart from Our Identity and its teachings, is a policy every reasonable man must approve.

But what if God demands the partition of the Turkish Empire to-day as the cause of its final and complete collapse? What if He has decided that "He will lay His vengeance upon Edom by the hand of His people Israel" (Ezek. xxv. 14)? What if He has decreed "that they (Israel) shall do in Edom (or the Turkish Empire) according to His anger and according to His fury, and that they (the Turks) shall know His vengeance"? Then indeed is the Gladstone Government in evil case, for this nation is Israel, and the allotted time for the collapse of the Power which has trodden down the Holy Land and city, has been reached, because 1,260 years have elapsed since July 15, A.D. 622, the date of the Hegira. *The Hegira*

The Government of this country, then, must, whether they like it or not, carry out God's decrees respecting the fall of the Turkish Empire, and we see strong grounds for believing that their hand which dealt the first fatal blow on July 11, 1882 (1881'6), at Alexandria, is still dealing with the task God has set it, and by a series of events, over which they have no control, is leading to the downfall of Turkish rule in Egypt and the Soudan, to end in the fall of the same in Arabia, Syria, Palestine, Asia Minor, Armenia, and, lastly, at the great Gate itself. The message of despair which has come to us from Khartoum is the warning note of the rise of the Mahdi's power in the Soudan, which will carry on the work of Turkey's destruction there, and probably soon after in neighbouring lands, and wherever else the accursed authority of the Turk is dominant in Asia.

Britain declared war against Turkey on 5th Nov. 1914, and finally drove out the Turks from Palestine (Jerusalem) in 1917. The Turks do not now rule in Egypt.

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