

PHILITIS

OR

SOLUTION OF THE MYSTERY

WHICH

FOR FOUR THOUSAND YEARS

HAS SHROUDED

THE GREAT PYRAMID

IN EGYPT.

BY

CHARLES CASEY,

AUTHOR OF "NEMESIS," "DARWINISM," ETC., ETC.

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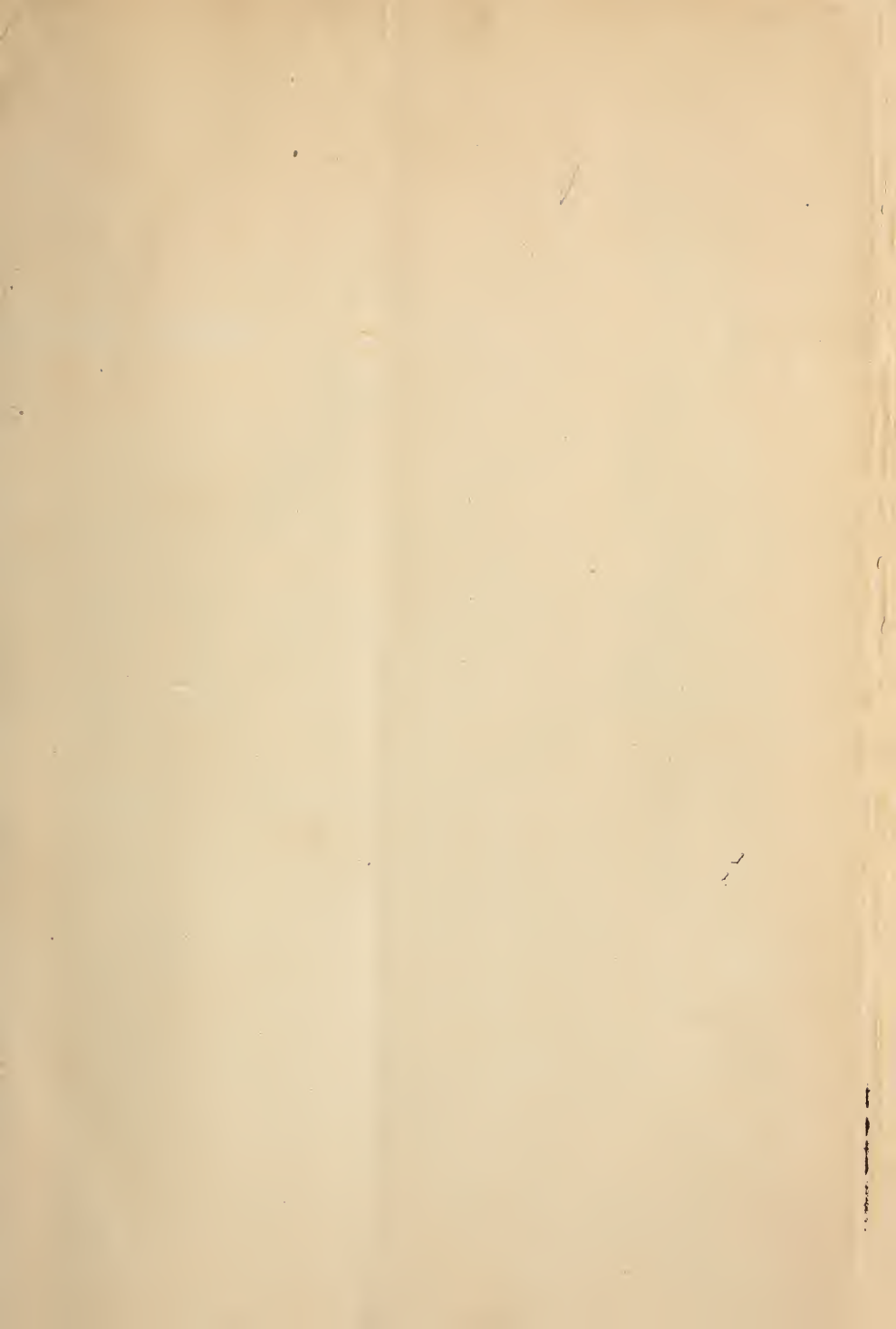
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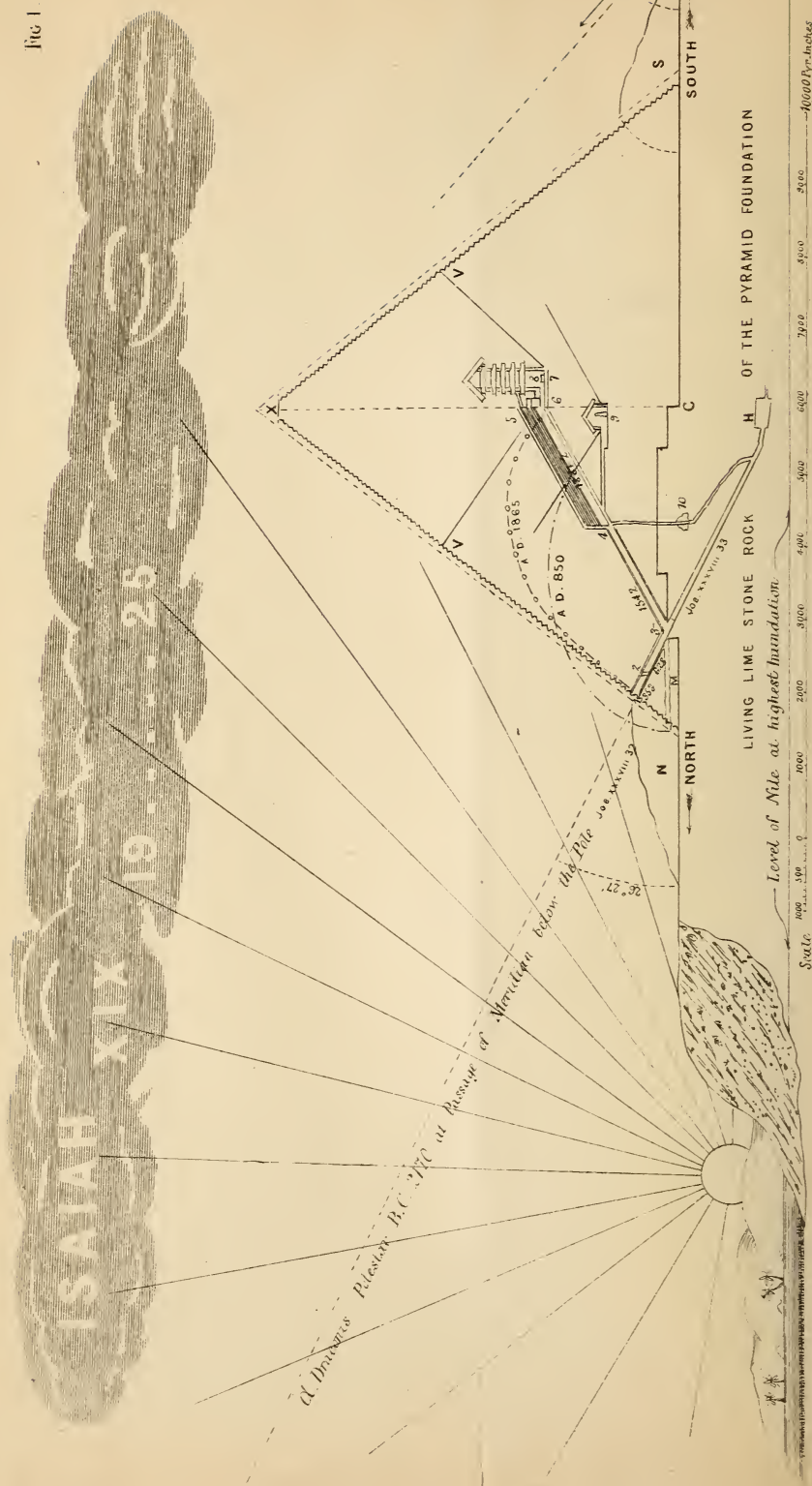
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PHILITIS:

BEING

A CONDENSED ACCOUNT OF THE RECENTLY DISCOVERED
SOLUTION OF THE USE AND MEANING

OF

THE GREAT PYRAMID,

WHEREBY THE MYSTERY WHICH HAS SHROUDED THIS WONDERFUL
STRUCTURE FOR FOUR THOUSAND YEARS HAS BEEN DISSIPATED,
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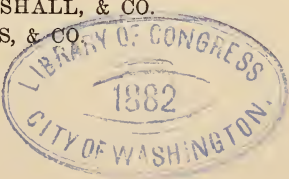
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TO
MRS. C. PIAZZI SMYTH,
EDINBURGH.

Madam,

I am honoured by the permission to
dedicate "PHILITIS" to you, as a slight expression
of esteem for the noble qualities of head and heart
by which you are distinguished.

CHARLES CASEY.

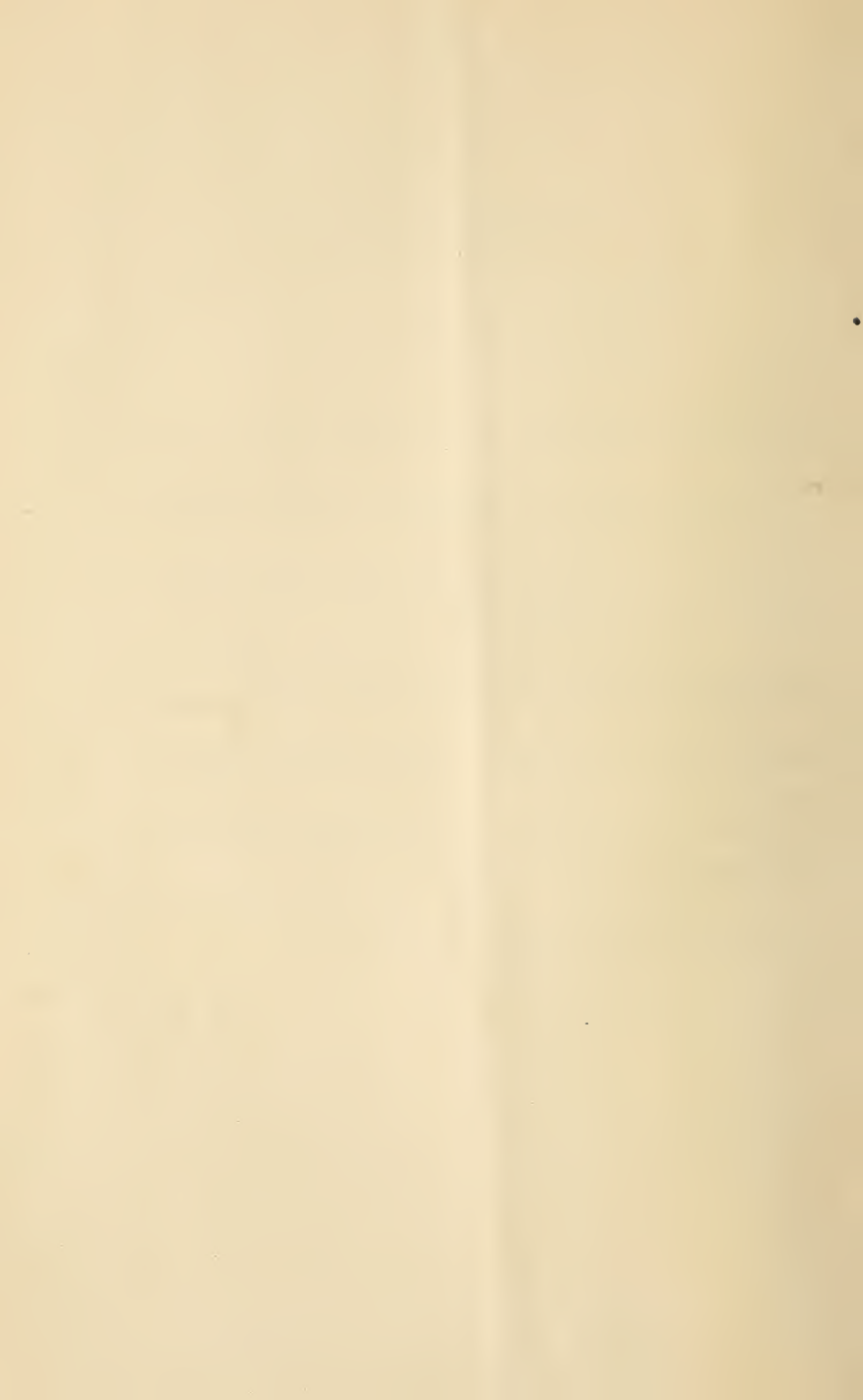
OCTOBER, 1872.

PREFACE.

THE rapid exhaustion of the First, Second, Third, and Fourth Editions of PHILITIS, and the continuing demand, have induced me to issue the present, to which has been added an account of most of the additional discoveries of symbolized truth made up to the time of writing. The rapidly increasing interest in the subject of the Great Pyramid is proved by the favour which has been extended to even the outline reference in PHILITIS.

C. C.

DECEMBER, 1879.



INTRODUCTORY.

BEFORE submitting to the reader the wonderful revelations which have been brought to light within the last eighteen years, it may be well to give a descriptive sketch of the Great Pyramid, as it was planned by its architect, and as it appeared when it came from his hand a finished and perfect work.

THE SITE.

To the west of the Nile, at the apex of the Delta, and on the northernmost edge of the Jeezeh Hill, bounding the Lybian desert, the architect of this great symbolic monument chose the site for his stupendous work, and began by having some hundred acres square of the hill crest reduced to a dead level, thus giving that solid rock-bed foundation which alone could bear the mountain of masonry which he purposed raising on it. This being done, he laid off by line and square the duly oriented sides of the base, cutting the angle sockets sharp down into the living rock; next he tested the purity of his square outline, measuring with fractional exactitude the diagonals of the base, and then projected the vertical height of the monument with an equal precision. Having thus fixed the outlines of the mighty symbol, he proceeded to give the inspiration of his mind a material form—a work so great as to require five million tons of huge squared stone to complete his idea—that idea embodying a form distinctly differing from any building that had gone before, as well as being in

size and durability the largest, highest, and most enduring stone monument that has ever been raised by the hands of man—an unique symbolic “pillar of witness,” a pure and perfect pyramid.

The standard of measure used by Philitis, in all the expressional or symbolic features of the work, was a cubit—a measure identical in length with that which was long afterward divinely dictated to Solomon for construction of the Temple of Jehovah on Mount Moriah, and now known as the “Sacred” or “Hebrew” cubit, to distinguish it from the cubits of greater and lesser lengths used by the profane nations of antiquity.

Let us now suppose that one who had seen the architect laying down his plan and beginning his work had gone away from Egypt and returned after a lapse of thirty years, the first ten of which period had been spent by the builders in making a great causeway from the Nile bank to the Pyramid hill, over which were drawn or moved to their final position the huge masses of squared stone that had been rafted down the river from their distant southern quarries, and the succeeding twenty years employing one hundred thousand workmen in completing the construction of the monument. Such an observer, as he approached the scene of his former visit, would then have seen a vast shadowless monument crowning the Jeezeh Hill, ablaze with a dazzling glory, as its buff and polished sides reflected the sparkling rays of an Egyptian sun—a symbol combining sublimity in size with a profound mystery in meaning. Had the awed and astonished beholder then inquired, with reverential faith, what was the use and meaning of his glorious work, he would have been gravely answered by the venerable Hyksos somewhat as follows:—“Friend, this thing which thou seest is a

symbolic monument—a pillar of witness in the midst of this land of Kemi and in the borders thereof—the truths contained in its construction being meant for all the nations of the earth, but which are now sealed up until the fulness of the time of their revelation shall have come. In it is shown, by measure commensurate with time, the dispensations allotted by God to the race of man. Also that supreme secret of His council into which the angels have desired to look—the time in the far future when the Eden promise shall be fulfilled—when Jehovah shall tabernacle in flesh—when the Shiloh shall appear as the incarnate word and mercy of God. And, moreover, it contains a record in measure of the earth's relations to the sun, the moon, and the stellar host of Heaven, and also standards of measure, both as to capacity and weight, for all time and all nations, as well as manifold other truths concerning earth relation and human destiny which have been revealed to me, and are symbolized in that monument on which you look, to be recognised and proclaimed in the latter days by those whom the foreknowledge of God has appointed to the work in that distant generation wherein the fulness of the times of the dispensations shall be completed."

Such would have been an exposition of the primal truths respecting the use and meaning of the Great Pyramid; but when the morning light of truth had passed away, and was succeeded by the evening shadows of distorted tradition, little, if any, of the original verity remained in the accounts given by the romancing Arab authors who treated of the monument. But following the twilight errors of mingled tradition and imagination came the thick darkness of absolute falsehood, when the primitive truth and the material form of the Pyramid were alike desecrated and despoiled by degraded and idolatrous generations, until error had reached its climax

in the belief that this once glorious but now ruined monument was simply and solely the vast mausoleum of an Egyptian king.

The night of the Pyramid's degradation had indeed come—the darkest hour before dawn prevailed—when, in 1859, the theory propounded by the late John Taylor shed the first ray of returning light as to the primal meaning of the Pyramid; his imperfect theory was taken up, examined, corrected, and carried forward with a strong hand by Piazzi Smyth, in 1864, and to-day the standard of the Pyramid is borne bravely onward to the van of mental conflict, supported by a cohort of gifted and zealous men who have carried it safely to victory through the brunt of that battle which the agents of error or mischief unceasingly wage against the revelations of God.

Having thus briefly and imperfectly alluded to the primal condition and meaning of the Pyramid, I shall now subjoin a rescript of the notes made at the time of my visit to the monument in 1860, as being an average illustration of the tourist ideas of the period, leaving uncorrected the florid and superficial style and observations which they exhibit, and giving them chiefly as fairly descriptive of the present state of the Pyramid, from which the reader is left to imagine the courage, the perseverance, the zeal, and labour which were necessary in perfecting the painfully accurate work of measuring that mighty pile as it has been measured by Piazzi Smyth. I find my notes recording as follows:—

“Having decided on visiting the Pyramid of Jeezeh next day, we removed from our hotel at Cairo to one situate on the Nile bank, opposite the Island of Geziret-El-Rhoda, and near the old city of El-Kahira. Riding out to our new residence in the cool of the evening, we found our change of

quarters one in every way for the better; our bed-rooms being large, cool, and opening on a balcony which overhung the river; while our host (an Italian) was civil to a degree, and leaving nothing to be desired in the resources of his *cuisine*.

“My travelling companion having gone to write for the mail, I took my seat on the balcony, solaced by excellent coffee and a fragrant chibouque, and, yielding to the tranquil influence of the time and place, indulged in the meditations which they naturally evoked. There beneath my feet flowed the waters of old Nile, calling up by their passing murmur a train of historic associations connected with the mystery of their source; how that in the old times before us, the finding of the ‘fountains of the Nile’ had stirred into a passion for their discovery the minds of men famous in the world’s history; how Cyrus the Persian, and Cambyzes, and Sesostris, and Alexander, and the Ptolemies, Julius Cæsar, and others, had of old striven, but in vain, to discover its unknown springs; and how in modern times Cosmas the hermit, Peter Paez, Alphonso Mendez, Peter Heyling, and Bruce, laboured to solve the mystery of the Sihor’s source, until in this our day the heroic perseverance of Livingstone promises to be crowned with well-earned success. I could not but reflect, too, how on such an evening as this the gentle daughter of Pharaoh, with her train of attendant maidens, found the infant Moses among the papyrus reeds of the opposite bank; for, fond tradition tells how this beautiful island was the scene of that touching event. While thinking thus, the crew of a kanghia moored below the balcony set up a rude chant, one of the party accompanying himself on a stringed instrument, singing a verse, the remainder of the crew joining by voice and hand-clapping in the not unmusical

refrain. Just then changing my position, I looked out over the groves of plummy palm beyond Boulak, and there saw, tinted by the golden rays of the sinking sun, embalmed in the intense azure of the western heavens, rising up against the distant horizon, sharp and glowing, the perfect outline of the ancient Pyramids.

“Those Pyramids and that river—how deep and solemn the lessons they conveyed to the soul. That glorious Nubian flood now gliding beneath my feet, fresh and beautiful as when at our planet’s creation it first swept in gladness to the sea. Those hoary Pyramids telling of the men, the nations, the dynasties, that have passed away since their erection, leaving a trace in the desert of Time faint as the footprint of a traveller in the sand, each and both proclaiming to the listening soul the evanescent nature of humanity, the eternal nature of God as reflected in the works of His hand.

“The evening air, soft, balmy, and delicious, came laden with the rich odours of spring from the gardens of El-Rhoda, and yielding to the magic influence of the place and time, I sank into a reverie which lasted until I was warned by the fall of night and the appearance of lights within my chamber to retire; and, notwithstanding the fatigue and excitement of the day, it was far into the night before my waking dream passed into the region of sound and refreshing sleep.

“Early next morning, having selected donkeys from a crowd of those animals which had been brought out from Cairo, we proceeded to the ferry below the southern point of the island, followed by the entire cavalcade of donkey-owners, who persistently urged their services on us, crowding upon us so much that we had literally to fight our way through them until we were fairly on board the roomy ferry-boat which bore us to the village of Boulak, from which

we struck across the plain of Jeezeh. During the earlier portion of our ride a singular illusion prevailed as to distance, the Pyramids seeming to recede as we advanced. After about an hour's progress they appeared to stand still, as it were, and during the last part of our journey they looked as if growing vaster and vaster in size, until when at last we had reached their immediate vicinity, amazement had so completely taken possession of the mind that it was not until some time had elapsed that our feelings found vent in words. We stood at the northern side of the most northern of the group—that known as the Pyramid of Cheops or Shofa—and looking along its base line of three hundred and fifty paces, and up at its vast stepped side to the dizzy apex four hundred and eighty feet above us in perpendicular height, and thought how the three other sides presented the same huge proportions, the mind slowly and almost painfully began to realise the enormous size of the mountainous building before us. Then came an effort to grasp and master the 'how' of its construction by human skill and the hands of man, and the conviction that the boast of our age as to advance in all the arts should be reversed regarding the building works that had been done by the grand master masons of the old times before us. I may say in this connexion that no amount of reading about the Pyramids—no painting, engraving, or photograph—no effort of the most active imagination—can by any possibility give the true impression of their enormous size and massive construction. As it is with Niagara, so it is with the Pyramids—a long-continued and silent observation alone conveys by slow degrees to the recipient mind the true and inspiring majesty of their magnitude. Nor are the whole of the proportions of the Great Pyramid now visible, as its sides are encroached on far up from the original base

platform by hills of sand and *débris* which have been accumulating there for thousands of years; and, of the white marble-like casing which once covered it, not a trace remains, save small bits of breakage which may be discovered among the rubbish-heap at its foot.

“When I had sufficiently recovered from my amazement, and while my fellow-traveller was arranging with the Sheik of the Pyramid as to charge for the ascent, I began to climb upwards at the north-east angle. The task was not an easy one, the lower tiers of the structure being not less than three feet or three feet six inches high, but before reaching the twentieth tier I was pursued and overtaken by two of the Arab guides, the younger man being the most perfect specimen of the human shape I had ever seen. They came bounding up the layers, shouting and whooping in disjointed English; passing me by a tier, they seized me unceremoniously by the wrists; and pulled me up to their stand-point; then jumping up on the next row, repeated the process, at each time shouting out, ‘Well done’—‘taib, howadji’—‘Come along,’ ‘No fear you,’ ‘Go ahead,’ ‘Very good,’ ‘All right you are,’ &c., &c., with the most ludicrous emphasis. So rapid, and, I may say, so violent, was our progress, that when we had reached about one half of the height, I was completely out of breath, and refused to proceed until I had rested and recovered my breathing. This, it would seem, was the desired point with the guides, who now became loud in their demands for money. Finding I did not pay attention to their outcries, the younger man became quite violent in manner, gesticulating wildly, and approaching with frantic gesture and fierce look, he cried, ‘Bucksheese, howadji!—give me money or I throw you down,’ pointing at the same time with outstretched arms and quivering

hands to the base. Glancing down, I saw that my friend had not yet begun the ascent, he and the group in which he stood looking like pigmies. I had regained my breath by this time, and felt the position was not by any means a pleasant one, as anything approaching a struggle would be certain to precipitate either or both four hundred feet down the steep face of the Pyramid. The fellow looked and acted mad enough to do anything; so, suddenly grasping my revolver, I presented it at his head. In an instant he dropped his arms, and stood rigid and silent as a statue. I did not speak, but motioned both the Arabs to the tier above, when, replacing my pistol, and grasping a wrist of each instead of letting them grasp mine, we proceeded up the remainder of the ascent much more slowly, and with less exertion, the height of the steps lessening as we neared the top. At length we reached the apex, which presented a level platform of, probably, fourteen feet square, and sitting down, looked out upon the glorious prospect which the position commanded. To the west lay the great Lybian desert—a soundless, scorching, desolate, and lifeless sand sea. To the east the plain of Jeezeh, verdure-clad and dotted with trees, stretched away to its boundary the broad and glittering Nile, beyond which rose the thousand domes and minarets of modern Cairo, while the range of the Gebel Mokattam formed a grand background to the charming picture. To the north, as far as the eye could reach, spread out the rich and fertile plain of the Delta, its beauty heightened by groves of the acacia and palm; while to the south the course of the ancient Sihor could be traced, winding like a ribbon of light through the rich valley of its course.

“But of the cities which once clustered in that valley there is now no trace—of Memphis and Heliopolis the names

alone remain, and the pyramids of Dashoor, Sakkara, and Abousir, seen in the far distance, seem as hoary witnesses of the dread decree—‘They shall be desolate in the midst of the countries that are desolate, and her cities shall be waste in the midst of the cities that are wasted.’ Of the twenty thousand cities numbered by Herodotus, Thebes alone—that ‘Metropolis of Ruins’—can be said to remain as a witness of the ancient glory of Mizraim.

“After enjoying the scene for some time, and finding the heat becoming oppressive, I prepared to descend; and, dismissing the Arabs, resolved to go down by myself, but soon found that the descent was not so easy as I had supposed, requiring more care and steadiness of nerve than I had reckoned for. The plan adopted by me after the first few courses was to jump from layer to layer, not letting the eye wander from the tier immediately below, resting at intervals, so as to familiarise the eye with the dizzy height, and seeing that the foot-hold was clear to which I sprang. Observing this rule, the descent was safely effected, and in the cool shadow of the northern base I awaited the return of my friend, whom I met ascending (aided by three Arabs) on my way down. After he had joined me, and was sufficiently rested, we prepared to enter the Pyramid and explore the interior chambers. Our Arab attendants had provided themselves with lights, and I had a good reflecting lamp. The entrance passage is some distance up on the northern face, but considerably to the east of the central line of the building it descends at a sharp angle towards the central base for a distance of, I should say, eighty feet; but being only about four feet high, and three and a half feet wide, we had to slide down in a sitting posture and rather summary manner; but even with such an imperfect opportunity for

observation, I was struck by the contrast which the masonry of the passage showed to the massive roughness of the exterior work—not only was the stone different in quality, but the jointing was of the most wonderfully perfect finish. The same remark will apply to the masonry of the other passages and that of the chambers.

“At the bottom of the entrance passage we descended into a void space on the west, from which we were lifted up by the attendants into an ascending passage rising toward the centre of the Pyramid at an angle similar to that of the entrance passage, making it necessary to crawl up on the hands and knees. This posture, and the suffocating closeness of the air, with the imperfect light and the howling din kept up by the Arabs, rendered anything like close observation impossible. After some time we reached a horizontal passage running due south, pursuing which, in a stooping posture, we entered what is known as the Queen’s Chamber, the roof of which is angular, and having nothing remarkable in it save a niche graduated toward the top, sunk in the east wall, seeming to be about eight feet high—an extreme height if meant to hold a mummy. Retracing our way, we reached the ascending passage again, and proceeded upward to the King’s Chamber. The upper part of the passage is quite high, and I wished much for better light and a quiet opportunity of examining its proportions. After laborious crawling along a narrow ledge, then crouching through an ante-room and low passage, we found ourselves in the noble apartment known as the King’s Chamber. This grand room, by rough pacing measure, is 34 feet $\times$ 18, and has a height of 18 or 19 feet at least. It is walled and roofed with great cyclopean stones, the workmanship being of the very highest order of excellence. Two small square apertures exist in the walls,

meant either for ventilating purposes, or as acoustic tubes reaching to other apartments in the Pyramid. At the west end of the room stands the mutilated sarcophagus of Cheops, cut from a stone of such dense and fine grain that it rang like metal when struck by the Arabs with hammers, as they strove to chip off a specimen for my fellow-traveller; I felt very glad indeed that they did not succeed in their efforts. It is about seven feet six inches long, and, like the niche in the Queen's Chamber, unreasonably large in every way for a mummy case. The frantic yells of the Arabs, the tantalising imperfection of the light, and the oppressively close atmosphere, rendered me anxious to get once more into the light of day and the fresh air of heaven; and when we once more emerged from the gloomy recesses of the Pyramid in which we had been immured for nearly two hours, I felt physically exhausted, as well as mentally dissatisfied with the result of our exploration. Some faint idea may be formed of the size of the Pyramid by reflecting that it is capable of containing 3,700 rooms the size of the King's Chamber, and doubtless it holds within its mass many other chambers which remain as yet undiscovered; but I am inclined to believe that although the Pyramid may have had a sepulchral use, it must also have been meant for the holding of mysterious rites by the Egyptian Magi. Regarding it in the former light, I could not but reflect—while standing beside the sarcophagus of the great Egyptian king, who had in this central chamber of the Pyramid ‘builded himself a desolate place,’ as Job expresses it, such a sepulchre as Isaiah speaks of in saying, ‘The kings of the nations lie in glory, every one in his own house’—how vain the hope of the monarch, how false the faith which had raised the mountainous pile within whose centre we then stood—that mighty mausoleum in whose

heart of stone he had hoped to secure for his ashes an immortality of sacred rest, the contemplation of death, soothed by the belief that when inhumed there, and when the great portcullises of stone were dropped one by one into their places across the passages, and when the outer entrance was builded up and cunningly hidden—then, said this mighty king in his heart, ‘There I shall rest in separate, sacred, awful security of solitude, until the angel of life returns to revivify my body, when it shall be found by the messenger of the gods unprofaned by mortal eye, untouched by the hand of time!’

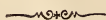
“It was the grand thought of a great king in an age of error and of false faith. Nor do I envy those who, in a wiser age and of a pure faith, affect by a shallow criticism to undervalue or despise the majesty of the idea which the Pyramids embody and immortalise. But to-day the futility of the monarch’s hope, the falsity of his belief, is proven, for his sacred chamber is trodden by the travellers of every clime—around his empty sarcophagus the sons of Ishmael whoop and shriek; and, seeing this, we feel that there are few places on earth where the sadly solemn reflection of Solomon has more force, as we mentally sigh with the wise man, ‘Vanity of vanities—all is vanity.’”

With this introduction, I shall now proceed to set forth a condensed account of the Pyramid revelations as they have been translated by the aids of modern science, and as contrasting with the foregoing tourist ideas of seventeen years ago.

C. C.

JUNE, 1877.

PHILITIS.



PART I.—1872.

I HAVE chosen for the title of this *brochure* the name of that wonderful Palestinian architect, PHILITIS, whose work in Siriad or Egypt, with the amazing revelations which modern science, within the last decade, has made known in connexion with it, are set forth in a condensed summary in the following pages, from which it will be seen that the structure known as the “Great Pyramid” in Egypt—held by western nations, for the past 3,000 years, to be merely the tomb of the fourth dynasty king, *Cheops* or *Shofa*—is in reality the most wonderful structure ever raised on our globe, no less as being the oldest, largest, and highest stone building ever piled by the hands of man, than as being an exponent of sacred and scientific truths of the most exalted and practically important kind; equally interesting to the scientist, the historian, and the believer in Revelation, and calling the attention of the thinkers of our age—religious and philosophical—to the most remarkable discovery that has been vouchsafed to our generation.

Thus far was written in 1872; but since then the whole subject has been clearing so rapidly from the mist of all the

past ages, ever since civilised nationality has existed on this globe, that it would seem as if we were now on the very point of being able to declare positively that "Philitis" was no other than the Melchizedek of the Bible, and the great pyramid that altar or pillar—*i.e.*, monument—which Isaiah (ch. xix.) announced would be manifested in Egypt during the last times, especially as a sign and a witness to the God of Revelation.

It may be well, in introducing this view of the great pyramid, to allude briefly to the entire number of those structures, by name, which stretch for some fifty geographical miles along the western reach of the Nile valley, where just the Lybian desert and the cultivated land struggle for extension—the traditionary mythical warfare of Typhon and Osiris—their line extending from nearly opposite modern Cairo, and ancient Heliopolis, to past the site of the still more ancient Memphis, and embraced between $29^{\circ} 59'$ and $30^{\circ} 4'$ north latitude. They are thirty-eight in number, of which only one—*viz.*, that known as the "Great Pyramid," or "the Pyramid of Cheops or Shofa," the *facile princeps* of the whole genus—may be called a *true pyramid*; thirty-four of the number being rude imitations, only *approximately true*; and the remaining three, although classed as pyramids, scarcely to be called so, when speaking critically.

The following table, for which I am indebted to the Astronomer Royal of Scotland, will give a concise view of the present and ancient height of each in British inches, and as close an approximation to the absolute date of erection as can be arrived at.

Commencing at the most southerly, we find:—

Pyramid or Pyramids	Present Height in British Inches	Ancient Height in British Inches	Date of Erection
Two of Biamoo - - - -	360	x	1800 B.C.
One of Howara (ruinous) - - -	1,270	x	1850 "
One of Illahoon (ruinous) - - -	1,580	x	" "
One of Meydoom (flat-topped) - - -	1,494	x	" "
Southern of Lisht (ruinous) - - -	822	x	1900 "
Northern of Lisht (ruinous) - - -	1,080	x	" "
Southern of Dashoor (brick) - - -	1,872	3,208	" "
Small of Dashoor - - - -	816	1,281	1950 "
Southern Stone of Dashoor (2 slopes) - - -	3,834	4,029	" "
Northern Stone of Dashoor - - -	3,918	4,111	" "
Northern brick of Dashoor - - -	980	2,586	" "
Base of Mustabet El Farahoon - - -	650	720	" "
9th at Saccara (ruined) - - -	900	x	2000 "
8th at Saccara (ruined) - - -	1,044	x	" "
7th at Saccara (ruined) - - -	330	x	" "
6th at Saccara (ruined) - - -	960	x	" "
5th at Saccara (ruined) - - -	480	x	" "
4th at Saccara (ruined) - - -	740	x	" "
3rd at Saccara (the great) - - -	2,200	2,405	2050 "
2nd at Saccara - - - -	1,300	1,758	" "
1st at Saccara (ruined) - - -	700	x	" "
Small of Aboosier - - - -	216	564	" "
Great of Aboosier - - - -	1,970	2,734	2100 "
Middle of Aboosier - - - -	1,284	2,056	" "
Northern of Aboosier - - - -	1,400	1,953	" "
Northern of Reegah (2 slopes) - - -	500	1,150	" "
Northern of Zowat El Arrian (ruined) - - -	730	x	" "
Northern of Abou Roash (ruined commencement) - - - -	480	x	" "
9th at Jeezeh - - - -	960	1,221	" "
8th at Jeezeh - - - -	660	1,332	" "
7th at Jeezeh - - - -	540	1,332	" "
6th at Jeezeh - - - -	834	1,440	" "
5th at Jeezeh - - - -	1,000	1,119	" "
4th at Jeezeh - - - -	834	1,440	2130 "
3rd at Jeezeh - - - -	2,436	2,616	2100 "
2nd at Jeezeh - - - -	5,370	5,451	2130 "
The Great at Jeezeh - - - -	5,410	5,828	2170 "

Thirty-four of the foregoing have been designed (with more or less outside, but unmeaning, resemblance as to form) on the model of the last in the list, but the first in point of time—viz., the oldest, largest, and most northern of the line,

that which all nations and tongues have almost intuitively called the "Great Pyramid"—standing on the levelled crest of Jeezeh Hill, at the southern angle of the Delta. With this, the original and true pyramid, before us, we are led to reflect that, as to the peculiar shape, it is in a manner a representation of the half of one of the five solids of geometers, viz., the *octahedron*, which primarily points to a scientific, rather than to an art, use and meaning; nor do we know of any form in nature, unless the diamond, and that is not of the exact angle, which could have suggested the design. It is, therefore, as to architectural shape or form, peculiarly original, special, and unique. The question next arising is, as to its use and meaning?—and here we enter on a discussion which it is as well to consider fully in this place.

Until within the last eighteen years there prevailed among all western peoples a belief that this structure, in common with the others passing under the same name, was merely a tomb—a mighty mausoleum—of the fourth dynasty king, known as Cheops or Shofu; a belief strengthened, if not originated, by the undeniable fact that all the later pyramids, copied to some extent from this the great original structure, were meant for, and used as, sepulchral monuments, there being found in each a basement or a subterranean chamber for the reception of the mummy, and in some of them the bodies of those they were built to inhumate. And perhaps the better way is to state here, in its strongest form, the argument which has been so strenuously advanced by the tomb theorists, and compare as we proceed its relevancy and force as opposed to the modern theory of the sacred and scientific use and meaning of this the one, and only, great pyramid.

In the first place, I will admit the possibility of Cheops or Shofu resolving to have a tomb built which would effectually

preserve his mummied body for all time, and (following the traditional account given by the Egyptian priests to Herodotus 1725 years after the erection of the pyramid, and 445 years before the Christian era) grant that he confided the execution of his order to the architect, Philitis—a most remarkable man of the Noah and Enoch type of mind, who lived 150 years before Abraham, and 670 years before Moses, described as an oriental Hyksos or Shepherd King (but to that point we shall return presently)—who, accepting the order, designed and built a structure which, while it *might be used as a tomb*, did nevertheless contain, though not exhibit to the men of that age, a series of cosmic truths of the highest order, and in the most accurate manner—truths, not of a local or temporary kind, but suited in their relation to nations of a very high state of intellectual cultivation; for it is, in fact, only in proportion to the growth of modern science that men have been enabled to recognise the existence of those truths built into the structure of the great pyramid, not in language, not in inscription, but in number, weight, and measure.

It will be seen that this concession alters the issue, and the question, therefore, is *not* whether this structure was meant by Egyptian Shofu or Cheops for a tomb, or even was used as such, but *is*—Did Philitis, the architect—who was not an Egyptian, but a temporary sojourner in the land, from Palestine—did he introduce into it all or any of the scientific truths to which I will hereafter allude? and which are capable of being tested by all or any who may consider them assumptions.

The next feature to be noticed is the existence of a subterranean chamber, situated 106 feet vertically below the base of the great pyramid, hewn out of the solid rock, and reached by an inclined tunnel of some 300 feet in length. This chamber is unfinished; contained no mummy; would seem

never to have been used; but still will bear an apologetic explanation in the tomb theory—viz., that its unfinished state and desertion resulted possibly from a change in the mind of Cheops, who may have desired a superterrene, instead of a subterranean, sepulchral chamber. Well, I will accept such attempt at explanation, the more readily as it is no more a part of the question at issue than that the unfinished vault is a part of the pyramid above it. It is merely a speculative analogical theory, drawn from subsequently-built structures, with nothing in their interior except a sepulchral chamber, and, therefore, though called pyramids, constructed from an idea and for a use alike degenerate from the design and meaning of the architect, Philitis.

This conclusion, however, remaining to be proved, I will now proceed to consider some points and features in the work of this inspired oriental architect, with the best aids which the most advanced modern science affords, and see how far the results will quadrate with the theory of the great pyramid being *merely a tomb*.

In the first place, we find that the architect chose for the point of erection a place which was eminently inconvenient for constructional purposes, as the rocky outcrop of the Jeezeh Hill had to be cut down and levelled, but which position was essential to a grand transcendental geodesic design, it being in the thirtieth parallel of latitude, the very parallel which has to the north and south of it an *equal distribution of terrestrial semi-surface*; while the pyramid's site itself is the very point on the earth's surface about which the dry land, or man-inhabitable portion of the globe, is equally arranged, and is also on the very best line for meridional zero which could be chosen for all nations.

This is a primary pyramidal fact, easily tested, and most

important in a scientific point of view; but if looked at from the "sepulchral" stand-point, a dispassionate candour must admit that this very remarkable position was not, by any conceivable necessity, required in a mere tomb meant for an ordinary king, but was of the utmost importance in a scientific structure, intended to speak in a subsequent day to all mankind. Yet were this a solitary scientific indication, it would have but a limited significance; but as one, and the primary point, it stands a remarkable fact, uncompleted with by any other building, ancient or modern, and challenges refutation by actual test—not by verbal cavil or speculation.

We next find that this structure (call it a tomb if you will) was designed and built in its entirety on a plan so scientifically perfect, *that the sum of the measured four sides of base bears, within the nearest possible practical approach, the same relation to the measure of its vertical height that the circumference of a circle bears to its radius.* Now, this very extraordinary and very large-sized expression of a peculiar ratio ($\pi \times 2$) was certainly *not* necessary in a tomb, as proven by the also large contiguous pyramid of Cephrenés, and by each and all of the thirty-four others, not one of which contains the ratio. But it was essential in a scientific structure such as the pyramid was designed to be, and consequently it exists, appealing to confirmatory test, and not to be got over or set aside by the humorous puerility of such men as Simpson,* it being a fact as demonstrable as that the three angles of a triangle are equal to two right angles.

* The late Sir James Simpson, M.D., who thought it well to ridicule the great pyramid theory rather than entertain the arguments in its support—his ambition being rather to twinkle as a humorist than to shine as a philosopher. But there has since appeared another James Simpson, with a different faculty—a modest and mathematical man—who enjoys the honour to have made some of the most advanced and exact discoveries yet reached in the revelation of the great pyramid.—(1874.)

We next find that a certain standard measure was used by the architect in the construction of all the expressional features of the pyramid; that standard was a cubit of 5×5 pyramid inches; and when one side of the square base is measured, it is found to contain this cubit 365 times with a fraction plus; thus giving our sidereal year of days, and the plus fractions of the four sides giving, in their sum, the equivalent of one day in four years, or showing leap year in the cycle of four years, such cycle being indicated in the four pyramidal sides.

Now, here is a feature derived from astronomy—a science not known with any approach to exactitude by the men of that time—quite unnecessary in a mausoleum, and not existing in any one of the other mere tomb pyramids, but a feature essential to chronometric structure meant to be revealed in future ages, and consequently expressed in the measurement of this vast monument, positively, and in the most enduring manner.

We next discover that this huge pile of solid masonry, covering an area of *thirteen English acres*, having a substance of *upwards of five million tons of stone*, and rising to a height of 486 feet (the highest, largest, and most ponderous stone structure ever raised by the hands of man), was built to a microscopic closeness, accurately square, and astronomically oriented. It is, therefore, quite legitimate to ask if those features were essential to a tomb? and the reply is obvious. But they are essential to a structure of scientific indications, intended to be proved and rendered vocal by the applications of modern science, and accordingly they exist indisputably expressive in the structure under consideration.

Further investigation reveals to us a still more impressive fact, viz., that the vertical height of this pyramid, which has

already spoken in its practical manner of the time of the earth's circulation around the sun in its annual orbit, does likewise speak of the radius of that orbit; for the vertical height, as measured in terms of any linear measure, when multiplied by its own indicated numbers 10^9 , gives, in the same terms, the mean distance of the sun from our earth—a most extraordinary knowledge exhibition 4,000 years ago, when we reflect that even in the time of Herodotus the sun-distance was supposed to be not more than 10 or 12 miles, increased knowledge, through successive centuries, increasing the distance to 14,000, 3,000,000, up to 36,000,000, 78,000,000, until, at end of eighteenth century, the estimate had overpassed the truth in a statement of 95,000,000 of miles as the sun-distance; and it is only within a very few years that the error in observation has been so far corrected as to give results between 91,000,000 and 93,000,000 of miles. Those who are unacquainted with the difficulty of the work, and therefore wonder at a difference of 2,000,000 or 3,000,000 of miles, may reflect a little when informed that an error of 3,000,000 miles would depend on observation of three-tenths of a second of space, or let us say a breadth equal to the thickness of a fine hair at 100 feet distance; and all the civilised nations of the earth have, at this very time, commissioned, not merely one or two *savants*, but many well-appointed and most expensively-equipped expeditions to different parts of the world, each and all working to their utmost, in the hope that, by combining the results of their various efforts, they may be able, in this year of our Lord 1874, to arrive at a somewhat more accurate determination than that which was obtained from the last transit of the planet Venus over the disc of the sun. But the divinely-informed architect of the great pyramid stated long ages before man began to

make scientific effort, and in the solid form above alluded to, that the sun-distance is 91,837,497 miles—a distance to which the most recent science-measure now closely approaches.

We are here constrained to ask emphatically if this feature of the very highest order of cosmic truth was to be looked for in a *mere tomb*? The answer of candour must be in the negative. But in a structure raised by an inspired man, and meant as a teacher, through means of science, to all nations, such a revelation is essential, and accordingly it has been given, and stands to be questioned of by all men.

Next it appears that the cubit of 25 pyramid inches bears an exact relation to the only true and unchanging standard in the knowledge of man, viz., the polar axis of the earth, of whose semi-length or distance from the earth's centre to either pole this sacred cubit of the pyramid architect is the ten-millionth part precisely. Now, in building a mere tomb, it would seem to an unbiassed thinker that any of the profane cubits—that of Memphis, of about 21 inches, or the Babylonian, of nearly the same length—would have suited equally well. Indeed, Sir Isaac Newton, proceeding on many data of early measures, went on to show that the pyramid had been partly built with the Egyptian cubit as a general working standard; but, although this might be suitable in a mausoleum structure, it would not be consistent with the character of a building meant to express sacred Hebraic revelation and scientific truths, and accordingly we find that, although the profane measure has been used in the general, gross, and merely filling masonry, still the Hebrew or sacred cubit of 25 pyramid inches has been exclusively used in all and every part of the indicative portions of the work. Noticing this all-prevailing feature in the interior work of the pyramid, does it not naturally occur to the mind that, while in building

a mere tomb, an inch or two in the standard would make no difference whatever, so long as the work was strong and cunningly done, yet that as a second and peculiar measure has been not only used, but definitely and impressively indicated (as in the standard bar or granite leaf of the ante-chamber to the king's room), the structure was designed to express sacred and scientific truth, to which end this standard and no other was essential, and therefore it was used throughout, and now reveals the meaning of that use in the chief passages, chambers, and, above all, in the coffer.

Again, we find that the pyramid inch is critically the five hundred-millionth part of the earth's axis length, and that when the length of the diagonals of the base is found in such inches their sum exactly expresses the precession of the equinox in an inch to a year—namely, 25,827 years. This would undeniably seem a superfluous feature in a mere tomb, but it is a grand and unimpeachable fact in a scientific structure, and accordingly there it is existing and solidified by a weight of five million tons of massive stone masonry.

But the mummy of the king required a sarcophagus, and so we find one, according to the tomb theorists, in the great central and upper chamber. Let us look closely at it—for truly it is the most remarkable ashes-coffer (if it was meant for such) that the world has ever seen—not, indeed, as a flattering proof of *art* in the designer, for it is plain, totally devoid of ornament or carving, a most bald and democratic burial place for a mighty king—unseemly, large, and unnecessarily out of proportion in height for such a purpose. But as a scientifically pregnant coffer, it is a marvellous illustration of the designer's skill and knowledge; for we find that the mass of its sides and bottom is cubically identical with its internal space capacity, viz., 72,250 cubic inches;

also, that the length of two of its adjacent sides is to its height as the circumference of a circle to its diameter; again, that the exterior volume is double the interior capacity, and that the sides and ends are twice that of the bottom; moreover, that when taken wholly, it stands in relation to the lower course of the king's chamber as the one-fiftieth part in capacity. Noting which, with unprejudiced reflection, one feels compelled to inquire if this remarkable construction and relation was necessary in a sarcophagus? to which question conviction replies certainly *not*; but it was essential to a scientific unity of the room and coffer, and so it stands an inflexibly positive scientific fact.

Additionally we find that this remarkable stone burial case (if it will still be so claimed) corresponds with the sacred, later, and divinely-planned ark of the Mosaic tabernacle in space capacity, although infinitely more massive and durable in its material. Its contents capacity is also found to be precisely equal to the Hebrew laver, four chomers, and to that of the old Saxon chaldron; also that its contents in water at 68° Fahrenheit, and barometer register at 30 inches, weighs critically one ton of 2,500 lbs., each of which pounds (within half an ounce of a pound, avoirdupois) is equal to five cubic inches of the earth's mean density; together with manifold other indications, all or any of which would seem superfluous in a burial case, but which are supremely necessary in a scientific and divinely appointed standard of weight and capacity measure for all times and all nations; and, consequently, we find it thus sacredly preserved in the very heart of this mountainous mass—the jewel, as it were, encased in a stupendous casket of enduring stone—while the real sepulchral sarcophagus of King Cheops or Shofu is a rude thing, desecrated and re-used by the later Egyptians themselves, in

25th course of masonry; and the king's chamber on the 50th, and the antechamber of the latter. Looking at this question in connexion with the masonry courses, there would seem to be a remarkable indication of a chamber on the 100th course, thus:—

The vertical height of 5th course from base is 223 inches.

That of the 25th course „ 869 „

„ 50th „ „ 1,686 „

„ 100th „ „ 3,052 „

which gives the sum of 5,830 inches, or the original vertical height of the finished and perfect pyramid, within a residual difference of two inches. On two of the above courses chambers have been found, conveying an indication of a chamber on the 100th course, as the 5th course has its significance in the commencement of the first ascending passage.

It now remains to mention how this revelation of the pyramid's true meaning came before the public. The late Mr. John Taylor, of Gower-street, London, some seventeen years ago, was led by a study of the pyramid's construction to conclude that it was *not* merely a king's tomb, but a scientific structure—a bold and striking protest against the prevailing faith of 3,000 years; and he accordingly published his ideas in 1859, in his work—*The Great Pyramid: Why was it Built, and Who Built it?* In this work the new theory, or rather the old and true use and meaning of the pyramid, was set forth in a limited, rudimentary, and imperfect manner; but was followed up by him with a pamphlet on the same subject in 1864, which so impressed Piazzi Smyth, the Astronomer Royal of Scotland, that he resolved to test the theory by actual and scientific measurement. Accordingly, having

provided himself with the best instruments that the most advanced skill could produce—from a scale* which gave readings under magnifying glass to $\cdot 002$ of an inch up to the great “Slider,” with a length capacity of 350 inches, and angle-measuring instruments of proportionate character—he, at his own exclusive cost, undertook a work more thorough and laborious than that performed by the French Academicians in 1798. Accompanied by his heroic wife, he spent four months at the pyramid, living in a tomb, and working assiduously, sometimes by night as well as day, until he had completed the most minute and laborious set of observations and measurements that has ever been bestowed on any building. The difficulty of the labour cannot possibly be understood fully by those who have not seen that huge structure rising up in 201 courses of cyclopean masonry, toiled up to the dizzy apex, and penetrated through its suffocating passages, even as transient visitors (a labour which the writer has a vivid remembrance of, though many years have elapsed since his experience of its difficulties). The results of Piazz Smyth’s expedition were given to the world on his return in 1867, in *Life and Work at the Great Pyramid*, a work in which the whole subject is exhaustively treated and demonstration established—on the one side, of the non-Egyptian character; and on the other, of the Biblical, sacred, and highly scientific nature (even to modern scientific test) of the structure known as the great pyramid, supposed for so many generations to be merely the tomb of a king.* When any rational man has read that work, he is compelled to admit its conclusions, however much chagrin it may cost him to renounce a long-

* Followed up since then by still further developments of the subject in the second edition of his work, “Our Inheritance in the Great Pyramid,” published by Isbister and Co., London. 1874.

believed-in theory ; for, to imagine that its manifold and marvellous expressions of sacred and scientific truth are *accidental* and without knowing design on the part of the architect, would prove the existence of an unsearching credulity as gross as that which would doubt the axioms of Euclid.

As might have been expected, this book caused an excitement amongst Egyptologists commensurate with its startling discoveries, and was received by many with derision, by others with the most acrimonious opposition ; but, fortunately, the author was a scientist—a pyramidal-minded man—with a Carlylean terseness of expression, one who could not be put down by the puerile witticisms of Simpson or the more measured opposition of General Sir Henry James, any more than his measurements and the deductions therefrom could be overturned by mere verbiage ; and, in consequence, we find that with the thinkers of our time, men not held in the bonds of prejudice, as well as with the general unscientific reader, the work has steadily won its way to acceptance, evoking an echo of belief from every quarter of the world. The question would arise, What *motive* could induce a man holding the position of the writer, and professionally engaged in the study of the most absorbing and the most exalted science of man, to take up, and follow out, the theory of Taylor?—not vanity, or the unrest of mental *ennui*, for position, eminence, and laborious duties alike answer in the negative ; not gain, for the experimental test involved an expense few would incur for the verification of scientific facts, and still fewer have individually undertaken what would more properly have been a Government work—a work so ponderous that even now, to gain residual accuracy, not to speak of thorough exploration for additional chambers, no less a sum than £12,000 would be

required; which sum, it is to be desired, the Chancellor of the Exchequer would be induced to grant for the thorough solution of the most practically interesting discovery of our age,* connected with the past and future of intellectual and religious man. However, truth grows, and hope waits; and, as Philitis built up this solid stone apostle, so, after a lapse of four thousand years, a few comparatively poor but earnest, qualified, and laborious workers, have been privileged to rebuild its ruined significance, and, literally, to find for all the world "sermons in stone," or rather "the very stones crying out."

It will be remembered that the pyramid when completed was cased with rubbed lime-stone slabs, like those which still remain on the upper portion of the pyramid called Cephrenés, and presented from the hand of the builder a solid-mass surface without any visible opening, and that, for the first certainly known time, about 3,000 years after its erection, the Arab, Caliph Al Mamoon, broke in an entrance on the north side with the hope of discovering the vast treasures which tradition had said were concealed in its chambers. The result of his labour was the discovery of the true passages and the chambers to which they led, but no treasures such as he hoped for. The rooms were empty, with the exception of a stone coffer, empty and lidless, found in the principal chamber. From that date to 1859, though some stray ideas of a metrical order were occasionally ventilated, the learned in Egyptology allowed the pyramid to be alluded to only as a mighty mausoleum; and, had not the discovery in its perfection, of a totally different

* The "Challenger" Dredging Expedition, now at work, and to be continued for four years, is costing £20,000 per annum. The Polar Expedition, just authorised by Government, is expected to cost £60,000; and the late mission of Sir Bartle Frere, to confer with the Sultan of Mozambique on the matter of the slave trade, cost £71,000.

from the bottom of which a passage leads westerly for a short space to the edge of a dark, almost perpendicular, abyssmal shaft, which leads down, down, down, into the deep and dismal subterranean descending passage, just before it falls into the Hades chamber or pit, which lies some 180 feet down in the living rock. Now, at an inch to a year along the line of the floor of the grand gallery, this sepulchral chamber shows the date of Calvary in our Lord's life. The inhumation of His body in the tomb and His resurrection therefrom are exhibited (in the stone that covered the entrance to that sepulchral well being burst out or rolled back with triumphant power from its mouth) in mechanical features, which speak as incontestably to the eye of science as eloquently as to that of faith—that the grave could not detain Him beyond the appointed time.

Thus and here we have the death, burial, and resurrection of the Messiah shown; and also the “passage” and “well” proof that it is only through His death and acknowledgment of His resurrection, that the Gentiles may hope to enter into, and partake of, the Christian dispensation, and be thus saved from falling into the bottomless pit, towards which their prideful and wilful following the machinations and idolatries of their own hearts has been leading them on in one continued downward course ever since the dispersion and their throwing off the patriarchal teaching of God. Many other distinguishing features in the principle of revealed salvation to man, and his future destiny, seem moulded forth in other features of the great pyramid's internal architecture; but the foregoing may be sufficient to beget an interest in the minds of believers, and unbelievers also, as to the solemn importance of the varied revealed truths of the great sacred and scientific pyramid *in*, but not *of*, Egypt.

PART II.—1874.

NO sooner had the views enunciated in the former part been published than they were rather hostilely taken up and questioned by some modern scientists, whose comment may be said to have taken this form—"If the claims of the great pyramid rest on science, you ought to supply more microscopically accurate data than those published if you expect to gain the attention of the learned world of the nineteenth century." But in this comment those modern scientists omitted to notice the closer approach to critical truth—exact results—and the smaller limits of error, when the measures of the great pyramid came to their ultimate application in the grand cosmical problem of sun-distance, than what the combined scientific results of all the modern world have shown up to the present time; when something like a million of money is being given to modern science to try again *de novo*, with the hope of its possibly attaining, by these extravagant means, somewhat better in the way of certainty than it has hitherto been able to supply. This fact was omitted from the reflection of those learned men when they applied themselves to a consideration of the differences between the figures of different measures of the base-side length merely of the great pyramid—thus employing their criticism on the husk, as it were, of the subject, to the exclusion of a consideration of the kernel.

Those differences, however, are in reality the errors of many modern learned men themselves, and are not in any degree chargeable to the ancient architect; for the actual base-side length, as built by him, is one and unalterable—as far as anything on earth, coming from the hands of man, can be; and if accuracy of deduction failed in one part of the general research, owing to rough or imperfect modern measure of one portion

of the pyramid, yet the same great cosmical physical truths were also bound up, and should have been searched for, in the size, shape, &c., of other parts of the structure—viz., in the interior portion of the pyramid, which, being in a better state of preservation, was much more amenable to the efforts of one good earnest man, fully qualified for the work, than the large and dilapidated exterior, and consequently has been better measured in modern times by, not one only, but several painstaking men, who have obtained a greater uniformity in results than Government expeditions have on the exterior, without, too, at the time of their measures, knowing that there was anything important symbolized by what they were then measuring. Hence the grand truths existing all the time in the antechamber of the king's room have only come to light in the short interval between publication of first and second editions of "Philitis," although measures sufficiently accurate had already been made, printed, and published over the world for some years, requiring only the Promethean spark of the true idea to animate in a moment the truths which lay buried in its symbolism, and had been involuntarily prepared for animation.

The modern measurers, therefore, have done their part—the measures of the ancient building had been taken with sufficient accuracy and published—but the mind of modern times was not acute enough to penetrate the idea involved. Thus, the length of the king's chamber has been before the world (given to the hundredth of an inch, or to three places of decimals) for more than two hundred years (the interval occurring between the measurement by that early Professor of Astronomy at Oxford, John Greaves, when he visited the pyramid in 1638, and the exhaustive measurements made by the present Astronomer Royal for Scotland, Piazzi Smyth,

in 1865). But during all that time no scientific importance whatever was attached by any one in the world to that particular length; and the remarkable manner in which its meaning came out at last is worthy of attention, showing, as it does, how number, weight, and measure, eminently pervade the one uniform plan which dominantly rules the whole structure—a plan which makes each part necessary to every other part, thus rendering it a sort of holy ground to the scientist, who finds in that amazingly vast building nothing of accident, nothing without a definite place and purpose in the general plan, and that plan, taken in its entirety, one of the most exalted character of which it is possible to conceive.

The first fruits of the new harvest of more exact facts were obtained when Major Tracey, R.A., studying in his artillery quarters at Bermuda the descriptions and measures contained in “Life and Work,” was struck by the undoubted fact therein mentioned without a thought of its importance—viz., that the floor of the antechamber to the king’s room is constructed partly in granite, and partly in limestone; that the granite portion measures 103·03 pyramid inches, and the whole length 116·26 inches, and that these numbers exhibit the squaring of circle problem again in a different form to that exhibited in the whole building—viz., by the *area* of the respective figures concerned—*i.e.*, the area of a square measuring 103·03 on the side, is equal to the area of a circle having 116·26 for its diameter.

Now, this areal proportion would of course come out equally in whatever terms of measure that parti-coloured plan should be measured in by modern men. But it was presently further discovered by James Simpson, St. John Vincent Day, Professor Hamilton L. Smith, of Hobart College, Geneva, New

York, and others, that, when the measures are taken in pyramidal inches, they give certain results connected both with the exterior of the great pyramid and the physical phenomena of the earth and heavens, which are not attained when using any other unit of linear measure; for thus— $116\cdot26 \times \pi$ (that invaluable number in modern mathematics as representing the proportion of diameter to circumference of a circle) = $365\cdot24$, the number of days in a year; also the number of pyramid cubits contained in the length of a side of the great pyramid. Again, taking 5 (one of the chief pyramid numbers), we find $116\cdot26 \times \pi \times 5 \times 5 = 9131$ pyramid inches = length of a side of square base of pyramid deduced from *all* measures taken since the discovery of the corner sockets by the French Academicians—or, taking 50 (representing the number of courses of masonry between level of antechamber and base of pyramid), we find $116\cdot26 \times 50 = 5813$ = ancient vertical height of pyramid in pyramid inches, as deduced from mean of all measures. And finally that $103\cdot033 \times 50 = 5151\cdot65$ pyramid inches, or is the side of a square of equal area—first, to a triangle of the shape and size of the great pyramid's vertical meridian section; second, to a circle having the height of the pyramid for a diameter.

At the same time the standard bar, or granite leaf, in the antechamber—that feature which puzzled Professor Greaves so much in 1638, under which all who enter the king's chamber must bow their head—is found to contain the length of the whole sacred cubit, as well as its division into 5 parts, and again into 5 parts, which we call pyramid inches, the pyramid inch being equal to 1·001 British inches—recording thus in its lasting granite substance, peculiarly and emphatically, the key to the whole system of pyramid metrology, reading which we find that the lower stone of the granite leaf is so placed

between the floor and ceiling as to mark out by its centre on a scale of 1—100, on the one side the 5813 inches of height, and on the other, 9131 inches of base-side length of the structure.

In fact, this little antechamber is a veritable microcosm of scientific detail, though yet in subservience to, or as index of, what is contained in the grand king's chamber—truly grand—constructed in solid polished red granite, whereof the world has had the accurate length for the past 230 years, yet never, all through those years, dreamt that it contained the truths now being enunciated.

These first began to appear to Mr. James Simpson when working out from the following approximate measures:—

Linear	{	Breadth = 206·10
		Height = 230·42
		Length = 412·20
Diagonals of	{	End = 309·14
		Floor = 460·84
		Side = 472·22
Solid Diagonal	-	= 515·24

by certain rather intricate commensurabilities, which he calls the sums of the squares. For he found by taking half the breadth, or 103·05 as a special unit of division, to test and divide thereby the above quantities, and squaring the results, the following very remarkable and confirmatory outcome appears, in pyramid numbers of fives and tens, as shown below:—

Breadth—2,000, whose square	-	= 4
Height —2,236, „ „	-	= 5
Length —4,000, „ „	-	= 16

Or, sum of squares for linear dimensions = 25 a pyramid number.

For the end diagonal—3,000, whose square = 9

Floor do. —4,472, „ „ = 20

Side do. —4,582, „ „ = 21

Or, sum of squares for part diagonals - = 50 a pyramid number.

Solid diagonal —5,000, whose square = 25 a pyramid number.

And the sum of the three pyramid numbers = 100, being the number of blocks composing the walls of the chamber, as first recognised by Mr. Flinders Petrie. In a more fractionally advanced theoretical consideration of the size and proportions of the chamber (not yet published), Mr. Simpson alleges the exact measurements to be:—

Breadth - - - = 206·0659

Height - - - = 230·3886

Length - - - = 412·1317

Diagonal of end - - - = 309·0988

Do. floor - - - = 460·7773

Do. side - - - = 472·1562

Solid or cubic diagonal - - - = 515·1646

And grand division test of this chamber = 103·0329

Now, taking the chamber's length (its chief line, and the best measured line in the whole pyramid) simply as measured, we find it practically = 412·132, and multiplying by the special pyramid numbers, 5×5 , we find it to yield absolutely 10303·30, or the same row of cyphers, save one in the 7th place, with differently placed decimal point, which Mr. Simpson gives as test line of commensurability, chiefly from theory.

Let us take Professor Smyth's interpretation of length = 412·132 as the mean, taken from his numerous measures, which expresses—1st, length of base-side of the whole pyramid

agreeably with the mean of *all* the direct measures thereof; 2nd, its vertical height; 3rd, its π shape; 4th, the metrological combination of sacred cubits and earth-commensurable inches; and 5th, the absolute length of that sacred cubit ordained of God, in after-ages, to Moses and the Israelites. In illustration of the 1st proposition, Professor Smyth takes the 412·132 as representing cubits of 25 inches each; and considering that number as diameter of a circle, that circle is found to have an equal area with a square, each side of which measures 365·242, &c., sacred cubits; being equal to socket side of the great pyramid, as deduced from the mean of all the measures; and also to the number of days, and parts of a day, in a mean solar tropical year. The 2nd proposition is tested by taking the same length of 412·132 as cubits in the side of a square, whose area is equal with that of a circle whose radius = 232·520 + &c., sacred cubits; as also being = the already concluded height of the pyramid. In proposition 3 it is found that the diameter of a circle having 232·520 + &c., for radius: (*is to*) the periphery of a square whose side length = 365·242 + &c., of the same units: : 1 : π , the grand and leading pyramid proposition. 4th. The pyramid *inches inside* the king's chamber are found to tally with *sacred cubits outside* the pyramid to the 1,000th part of unity, not only in giving a coincidence in numbers, but in assigning a good scientific reason for them, demonstrating that both inch and cubit alike were designed and used by the Architect of the Entire Structure. And finally, 5th, the absolute length of the sacred cubit of the great pyramid and Moses is deducible to the ten-thousandth of an inch from a direct measure of the king's chamber, on being simply computed according to the modern determination of the value of π and length of year, and comes out from the local measure of 412·545 British

inches to be $25\cdot0250 + \&c.$, British inches of the present day.

The indications by measure and angle of the lower and primary chamber known as "The Queen's" are coming out more and more. Piazzzi Smyth had already shown that the axis of the great niche in the eastern wall of the chamber is measured, from the centre, by just one sacred cubit in length, whose pyramidal division into 25 inches is symbolized by the chamber standing on the 25th corner of the whole structure; but since then Professor Hamilton L. Smith, of Hobart College, Geneva, New York, has succeeded in recognising still further scientific development, and has shown—1st, the typical representation of the latitude of the great pyramid; 2nd, the angles of the polar star of that day, as seen above the horizon at both upper and lower meridian transits; 3rd, that the height of the niche multiplied by π and result by the pyramid number 10 = equal height of great pyramid; or, $185 \times \pi \times 10 = 5812$ (it is to be noted that 5813 should come out, but the measures of that chamber are comparatively rough; hence fractional discrepancy may be looked for); 3rd, the height of north and south walls measured = $182\cdot22$ pyramid inches, and assumed $182\cdot62$, give (1) $\frac{182\cdot62 \times 10}{2} = 9131 =$ length of pyramid's base-side in p. in.; (2) $182\cdot62 \times 2 = 365\cdot24 =$ solar days in solar tropical year; with many other readings given in detail in 2nd edition of "Our Inheritance," from which the foregoing are taken.

Mr. Waynman Dixon also has had the honour of making a discovery in this chamber which is mysteriously inexplicable, viz., the existence of two channels seemingly similar in design to the air channels of the king's chamber, but which were evidently *not* meant by the architect for ventilating purposes,

because they were hermetically sealed up by the inner or chamber-lining stone, giving no indication of their existence, until broken into by cold chisel and hammer, when it was found that they reached some 7 feet into the wall horizontally, then rose N. and S. at an angle of 32° , and likewise that they were cut through the chamber-lining block in its entire thickness, save the thin tympanum which was left to conceal their existence on the inner surface. The question, then, is—As they were not meant for ventilating channels, what was their use? It strikes me that they were meant for acoustic purposes, as the slight covering slab would serve as the veritable tympanum of an ear that led—where?—possibly, probably, almost certainly, to another as yet undiscovered chamber—such as I had predicted the existence of on page 35, two years before Mr. Dixon's confirmatory discovery—an idea supported by the fact mentioned by Mr. Dixon, that although the smoke of a fire lighted in the southern passage went away, its exit was not discoverable on the outside of the pyramid. And when we reflect that a slight tap, given on the stone tympanum by a small metallic or other hard substance, would be faithfully transmitted through the length of the channel to its exit—the conclusion seems reasonable that those passages had an acoustic use, and were *not* meant for ventilating purposes.

Again, the publication of "Philitis" resulted, *inter alia*, in numerous inquiries as to who Philitis was?—a question to which the following statement may be given as a satisfactory reply:—We find from Herodotus that Philitis was a Hyksos, or shepherd king, sojourning in Egypt in the reign of the fourth dynasty king Cheops. Manetho translates the term "Hyksos" as meaning, in the sacred language, "Hyk," a king; "Sos," a shepherd; and goes on to describe those shepherd

kings as invaders who subdued the Egyptians without a battle—by some mysterious power which they possessed—and proceeds to recount “that eventually they quitted Egypt by capitulation, with all their families and effects, and proceeded to Judea, numbering some 240,000 souls, where they built a city sufficient to contain this multitude, and called it Jerusalem” (*vide* “Corry’s Fragments,” p. 173). Now, taking Philitis as the leader of *that* exodus, and keeping dates in view, we find that the then King of Jerusalem was a very peculiar person, a king without written ancestral pedigree, of whom no death-record was preserved—and who was high priest as well as king—he to whom Abraham paid tithes, the Melchizedek of Scripture; hence the inference approaches certainty that Philitis and Melchizedek were the same person.

But, as this question is now being debated with zeal, it is as well to say, that although it be interesting in a high degree to find that Philitis and Melchizedek are synonymous, yet, as far as the pyramid question is concerned, the matter has no vital importance, for this “Pentateuch of stone” stands self-asserting, without regard or support from the name of its architect, as a testimony to *our* time, that *whoever* the architect may have been who was so eminently inspired with a knowledge infinitely transcending that of his and succeeding generations of man, the work of that architect remains eloquent and immovable, the but partially solved problem of our age, a pole star of science research—a historic and prophetic record—a testimony to exact truths, accumulating by research—propounding a thesis which, like the visioned ladder of the Hebrew, though resting on the earth, reacheth to the heavens, on which divine truths, angel-like, may be seen to ascend and descend, even as in the dream of the sleeping Jacob.

PART III.—1875.

A REVIEW OF "OUR INHERITANCE IN THE GREAT PYRAMID." By Piazzi Smyth, F.R.S.E., F.R.A.S., Astronomer Royal for Scotland. New and Enlarged Edition, 526 pp., 17 plates. W. Isbister & Co., 56, Ludgate Hill, London. 1874.

IN this, the latest work of the Scottish Astronomer Royal, the author has marshalled the argument in favour of the great pyramid's claim to a scientific and ethical meaning and use in as condensed a form as the nature of the question will admit; presenting in the volume before us a summing-up and application of the extensive and laborious details given in his great three-volume book ("Life and Work at the Great Pyramid," published by Edmonston and Douglas, of Edinburgh, in 1867, containing some 1,653 pages and 36 illustrative plates), together with the most recent structural discoveries, as well as the latest advances that have been made in mastering the more deeply-seated teaching of this primeval building's symbolism.

When, some fifteen years since, the late John Taylor published what seemed to be a speculative theory respecting the great pyramid, his book was looked upon generally as a literary curiosity, rather than an exposition capable of withstanding scientific test; but amongst the readers who gave a serious consideration to his theory, there was one (the author of the volume under review) whom it impressed so strongly, that he took it up practically and found it possible to advance it from the position of an inchoate thesis to that of a demonstrable scientific fact, which has now won a world-wide reputation, and is daily compelling acceptance from qualified and unprejudiced thinkers and scientists in both Europe and America.

As might have been imagined, the appearance of "Life and Work at the Great Pyramid" caused a violent commotion amongst Egyptologists, hieroglyphists, and all those who held by the idea that the Great Pyramid was but a larger copy of the lesser mausoleums which stretch along the western bank of the Nile; and hence a wasp-cloud of impulsive, incompetent, and irascible persons swarmed, with buzz and sting, around the devoted head of the man who had dared to examine the grounds of their views and beliefs. But the standard had passed into worthy hands, and, leading a cohort of stern and doughty followers, the new Pyramidists put to utter rout the legion of turbulent and positive autocratic asserters of a mere tombic design of the great pyramid.

And here it may not be amiss to consider for a moment the qualifications and character of the man with whom the demonstration of this unique pyramid's sacred and scientific character is especially connected. Qualified by his profession as astronomer for patient and rigorously exact observation, sustained and abstract thought, the duties of his daily life making him familiar not only with the mensuration of our little globe, but that of our sun system, and even that system around whose centre in the infinite depths of stellar space our sun circles as a planet, he brought to the test and consideration of the pyramid measures the trained and vigorous skill of a specialist; and accordingly, when, in 1865, he went to Egypt, accompanied by his heroic wife, and having spent four months at the pyramid (living in an empty tomb), working indefatigably at his mensurations, and perfecting the most thorough, exact, and exhaustive set of measurements ever applied to any building in any age, he returned with a body of digested results which have withstood every attempt to question their accuracy. Then, as to the mental character of

the man, his book would show that, while he is not one to lightly adopt a fanciful scientific theory, he is still not of that timid class to be sneered down, pooh-poohed, or dogmatically bullied out of his convictions. In style, terse, vigorous, and graphic, he conveys his ideas to the reader impressively, while pervading his conclusions there is a deeply devout spirit which adds solemnity to the work.

Receiving the Bible as the inspired Word of God, and consequently being a Christian by conviction, he differs from many of our present unhappy so-called philosophers, who seem to think it necessary to the character of a learned and advanced thinker (as the phrase is) to deny the inspiration of the Scriptures, and to deify a knowledge of which it may be said that its highest reach is doubt, its ultimate results negation.

Having thus alluded to the man, let us now turn to the work done by him; and, primarily, it must be reflected on that no person, of however active an imagination, can have any approximately true idea of the labour and difficulties of the accomplished measurements from merely reading the account given. But only those who have seen and explored the pyramid—as the writer of these lines did in 1860—who have looked up at, and been awed by, that mountainous mass of five million tons of great hewn stones, looming up to a present height of four hundred and fifty feet—who have clambered up its perilous slope, and stood in solemn silence on its giddy apex, then have walked round its vast base area of thirteen acres, and next slid down its descending, and laboriously toiled up its ascending, passages, in a thick darkness, which the lamp but served to render visible, oppressed by the confined air, high temperature, and dust—only such, with an experience like the foregoing, can have any true idea

of the labour expended in achieving measurements such as those taken by Piazzzi Smyth—a work more thorough and perfect than that performed by the *corps* of French Academicians in 1798, supported by a Government Commission; while this one man, out of his own private means, with a dogged resolution, sustained by a power of physical endurance possessed by few, prosecuted the work to completion with an unswerving tenacity which makes us pause to ask—What was the motive which could have impelled to this sacrifice of time, health, and money? And when we find that the motive was simply and solely the desire and resolve to verify a scientific truth, it is not too much to say that history records few instances of more heroic and honour-worthy zeal than that exhibited by the author of the volume under consideration.

And although “Life and Work at the Great Pyramid” evoked numerous illustrations of envy, hatred, malice, and much uncharitableness from vain, flippant, and unqualified writers, the author being scoffed at, traduced, worried, and all but *argued* with, by opponents who only succeeded in proving their egotistic inefficiency to apprehend the truth—still, even as the pyramid itself stands massive and immovable above the sand-drift of the desert, so now stands, solid and irrefutable, the scientific thesis of its character, uninfluenced by the clouds of witlings which the wind of vanity has strewn around its base.

But, next, let us see what that thesis is, and consider the proofs advanced in its demonstration.

(1.) As to the structure itself. It is duly oriented, and stands the largest and highest stone building ever raised by the hands of man. Its proportions have a peculiar meaning in the higher mathematics—its height, when perfect, bearing the relation to twice its base-side length which the diameter

bears to the circumference of a circle, and the area of its right section being to the area of its base as 1 to 3·14159, &c., or the mathematical function usually termed π .

(2.) In geographical position it stands on a meridian in which there is more earth and less sea than any other—which rule holds equally good as to its latitude (the parallel of 30° embracing more land-surface than any other)—and occupies that point on the earth, north and south, east and west, of which there is an equal distribution of terrestrial land-surface (see “Equal Surface Projection;” Edmonston and Douglas, Edinburgh, 1870).

(3.) A unit and standard of length measure are rigidly set forth by the Pyramid, the former an inch (to which the present British inch approximates by the $\frac{1}{1000}$ th part), the latter a cubit of 25 pyramid inches, = to the “sacred cubit” of the Hebrew nation, and differing from all other, or profane, cubits of ancient days.

(4.) The length of one side of its base, divided by such cubit, gives the number of the earth’s rotations, and fractional parts thereof, on its axis during the solar tropical year.

(5.) The height of the pyramid, raised to the 10^9 , gives the sun-distance as = 91,837,497 miles, corresponding with 8·90 seconds of parallax.

(6.) Its four faces incline to the central axis at equal angles of $51^\circ 51' 14\cdot3''$.

(7.) The initial unit of measure (inch) is the 500,000,000th of the earth’s polar axis, and the cubit, consequently, 10,000,000th (ten-millionth) of the polar semi-axis.

(8.) The sum of the diagonals of base gives the number of years contained in equinoctial precession as = 25,827, a discovery hitherto attributed to the much later Hipparchus. Yet, 2,000 years before the thought had been grasped by the

Greek, the architect of the great pyramid had built in the fact on the diagonals of its base.

Passing now from the cited leading features of the pyramid—which some may say are merely interesting, remarkable, or curious, even if true, as illustrating the possession of a height and range of knowledge in a remote age superior to, and surprising when compared with, the scientific requirements of the present—we pass to another and thoroughly practical standard, contained in the central chamber of the Pyramid—variously called “The Coffin,” “Sarcophagus,” “Empty Box,” “Lidless Stone Chest,” by Western writers—but designated more correctly and traditionally by Hekekyan Bey, C.E., of Constantinople, in a volume published in 1863, as “*The King’s Stone*,” deposited by the Arions in the *Sanctuary* of the *first Pyramid*, as a RECORD of THEIR STANDARD METRIC MEASURE, from which passage the reader will observe that the Western *tombic* theory is completely ignored by Oriental tradition and belief, which holds the pyramid itself to be a religious monument, in whose *Sanctuary* is deposited a standard of *metric measure*.

The utterly futile force of the *tombic* theory as an *argument* affecting the record of the vessel in question will be considered further on; and we now pass to a brief consideration of its metric features, as demonstrated by Piazzzi Smyth.

(1.) In this syenitic granite standard (in form, an oblong rectilinear hollow) the outside is equal to double the cubic contents of the inside, and its sides to double the contents of the bottom. (2.) Its cubic contents are 71,250 cubic pyramid inches, being the exact capacity of the Mosaic Sacred Ark of the Covenant, and *four* times that of the present British “Quarter.” The complete scale from the “drop” or “minimum,” to the “coffin,” or “ton,” with its admirable commen-

surability, must be referred to by the reader in the original volume, being too extended to introduce into a notice like the present. The same may be said of the "Coffer's Weight," "Earth Density," and "Mean Temperature" record, as also of the metric features of the lower, or "Queen's" chamber, which are being slowly but remarkably translated in their wonderfully consonant details, notably by Professor Hamilton L. Smith, of Hobart College, New York, and Mr. James Simpson, of Edinburgh, whose paper, given (IV.) in the Appendices to the volume before us, is a luminous illustration of the richness in design of both this and the more important "King's" chamber, as well as the high qualifications of the translator.

A contribution to the July number of *Life from the Dead*, by Professor Smyth, renders superfluous a more technical disquisition on the exhaustive proofs abundantly supplied in support of the leading cosmic truths already alluded to. But a reference to the work under consideration is necessary for obtaining a full understanding of the teaching of the great pyramid architect, as far as it has been unveiled up to the present day. There are, however, features other than cosmic and physical exhibited in the pyramid of an unmistakably prophetic character, which raises this monument, or "Pillar of witness," into the plane of a prophetic revelation in stone, anterior to all written prophecy. But a revelation which, when built into this monument, would seem to have been meant for *our* generation, as it was sealed up until the fulness of the time had come when, and when only, the veil of fable and misbelief should, and could, be drawn aside—and its glorious testimonies, luminous and infallible, exhibited—to rebuke the vanity of a knowledge-worshipping age, by showing that, even in cosmic truth, the highest reach of the most

advanced modern science has failed to grasp the everlasting truths plainly and potently expressed, built in and bound down immovably, before the beginning of human intellectual history, under a mountain, as it were, of stone, by the inspired architect of the great pyramid.

To those who believe in the divinely-inspired character of the Hebrew and Christian Scriptures, it will be refreshing to know that here, in this pillar of witness, seven hundred years before Moses wrote the Pentateuch, did Philitis, or Melchizedek, record, not in written characters that might or could be defaced or mistranslated, but in metric characters, fixed and unchangeable as the earth's axis, the three notable dispensations of our race—viz., that from the dispersion at Babel to Moses, the Hebrew dispensation, and the Christian dispensation, foretelling to a year the date of the birth of the Messiah.

PART IV.

REVIEW—*continued.*

[Second Notice.]

IN a former paper some of the leading cosmic, metric, and ethical features of the great pyramid, as exhibited by its divinely-guided architect, have been set forth or alluded to; but to those who desire to be fully acquainted with the wonderful results of modern investigation, of the theory first propounded by the late John Taylor, a reference to the volume above noted is essential, in which the author not only gives an application and summing-up of the matter of his first and greater work, but also incorporates the contributions which other writers have made to the subject since 1868, in which year the argument of the pyramid may be said to have first taken definite and tangible shape in "Life and Work," securing at once that attention of the thinking world which John Taylor's volume had failed to do—it containing, as it were, but the outlines of a theory, while Piazzzi Smyth's work at once elaborated, filled in, and demonstrated the thesis.

That work called into the field the able assistance of William Petrie; St. John Vincent Day (see his magnificent work, "Plates and Notes relating to some Special Features in Structures called Pyramids." Edmonston & Douglas, Edinburgh, 1869); Rev. Joseph T. Goodsir; Major Tracey, R.A.; James Simpson; W. Flinders Petrie; Henry Mitchell, U.S.; Rev. Alexander Mackay, LL.D.; Rev. F. R. Glover; Hamilton L. Smith, U.S.; the Abbé Moïgno, Chanoine de St. Denis, Paris; Waynman Dixon, C.E.; W. J. Cockburn Muir; and other qualified writers, whose confirmations and discoveries are given in the volume which is being commented on, of the fulness of which no

better proof can be advanced than a quotation of its index, viz.:—“(Chapter—1) Introductory Statement Touching the Great Pyramid. (2) Geometrical Proportions. (3) Standard of Length employed in Great Pyramid. (4) Figure of the Earth and Sun Distance. (5) Geographical Indications of the Great Pyramid. (6) Structural Isolation of the Great Pyramid amongst the Pyramids. (7) The Pyramid Coffin. (8) Why of that size? (9) Density and Temperature. (10) Confirmations by the New School. (11) British Metrology, Past and Present. (12) Pyramid Capacity Measure. (13) Pyramid Weight Measure. (14) Linear and Superficial Measure. (15) Heat and Pressure, Angle, Money, Time. (16) The Sacred Cubit of the Hebrews. (17) Time Measures in the Great Pyramid. (18) Moses and the Wisdom of the Egyptians. (19) Mechanical Data. (20) Sacred and Prophetic Time. (21) Hierologists and Chronologists. (22) The Shepherd Kings. (23) Superior Testimony. (24) Preparations for Universal Metrology. (25) General Summation, Secular and Sacred. (Appendix—1) Mr. Waynman Dixon’s Casing Stone. (2) Dr. Grant’s Crucial Pyramid Investigations. (3) Dr. Leider’s supposed Pyramid. (4) Mr. James Simpson’s further Pyramid Calculations. (5) Rude Stone Monuments *versus* the Great Pyramid. (6) Recent attempts to Shorten both the Great Pyramid’s base-side and the profane cubit of Egypt.”

The work proper of Piazzi Smyth has singularly shaped itself as to “parts” and “chapters” into the prevailing pyramid numbers, being composed of five parts and twenty-five chapters, thereby preserving the unities, as it were, even in the dissertation, and in this connexion it may be advanced that, as to the existence of other chambers in the pyramid than those already discovered, two more may perhaps be theoretically predicated as existing relatively in the planes of the 75th and 100th

courses of the pyramid masonry; the primary, or queen's chamber, being on a level of 25th course; the second, or king's chamber and antechamber, on the 50th course; and, as *five* is one of the ruling numbers in the structure, it would seem but consonant with its features to look for two other chambers in its mass, rising possibly in richness of revelation as they do in vertical position.

Referring back to the concluding assertion in the former paper of this review—viz., “That the birth of the Messiah is foreshown by the pyramid measures,” the details of the discovery of this the most important and astounding of the pyramid revelations (which it was the privilege of the writer to have led up to), and the demonstration of its accuracy, must be referred to in the original volume, where the history of the circumstances which led up to the discovery and interpretation of the Messianic sign (which for four thousand years had been visible, yet unseen) is fully given, as well as the copious tabulated demonstration of the hypothesis. Surely this is a fact most worthy of the deepest attention of those men who hold themselves to be the lights of our age. For it is either true or false; if the former, it is infinitely more important than theories respecting “Force,” “Atomic attraction,” “Protoplasm development,” &c., &c.; and if it be false, let it be refuted. It is not hedged about by philological or debatable ground of argument, but stands on, and by, line, angle, and measure, in its plea for acceptance; or, to use the words of the Rev. F. R. A. Glover, M.A., “pure science readable without bias by all mankind.” And surely it is eminently worthy the most serious attention of Christian teachers who are zealous for testimony corroborative of Holy Writ, not mutilated fragmentary record-writing on pieces of pottery, but clear indubitable prophecy, spoken in a language understandable by men of every tongue.

Until within the last sixteen years the prevalent opinion amongst Western travellers who had visited the great pyramid was, that in common with the other structures resembling it rudely in form, it was merely the largest mausoleum in the line of pyramids, stretching along the valley of the Nile, an idea largely defensible from the fact that all the other and later pyramids were unquestionably meant and built for sepulchral purposes. But respecting the original great pyramid, it may be worth while to quote the traditional opinion of oriental writers on the subject, however much such opinion is marred by the element of redundant imagination.

Thus we find Abou Ma'sher Ja'fer Ben Mohammed Balkhi, who died 884, A.D., writing:—"The wise men previous to the flood, foreseeing an impending judgment from Heaven which would destroy every created being, built upon the tops of the mountains and in Upper Egypt many pyramids of stone, in order to have some refuge against the approaching calamity. Two of these buildings exceeded the rest in height. Upon the exterior of the building every charm and wonder of physic was inscribed in the Mossannad character, and likewise this declaration, 'I have built them, and whoever considers himself powerful may try to destroy them: let him, however, reflect that to destroy is easier than to build.'" In this extract it will be seen that under the error of supposing an antediluvian origin, there lies the vital truth that the structure specially indicated *arose from a religious faith*, and fear in and of God.

Again, Masoudi, 967, A.D., says "that Surid Ben-Shaluk Ben-Sermuni Ben-Sermidun Ben-Sedresun Ben-Sal, one of the antediluvian kings of Egypt, built two great pyramids (the great and second in Jeezeh group); and in the eastern, or great pyramid, were inscribed the heavenly spheres, and figures representing the stars and planets in the form in which they were

worshipped. The king also deposited the instruments and the thuribula with which his forefathers had sacrificed to the stars, and also their writings, likewise the positions of the stars and their circles, together with the history and chronicles of times past, and of that which is to come, and every future event which would take place in Egypt." This writer, it will be seen, even although the tradition is overlaid with astrological belief, still shows that the *prophetic character* of the monument had passed down to his time as a matter of *traditional faith*.*

It is unnecessary to multiply Eastern authority for the sacred and scientific character of the pyramid as opposing and superior to the Western belief in the tombic theory, which, however, naturally arose and was confirmed by the erroneous conclusion that the use and character of the primary pyramid might be truly predicated from the unquestionably tombic pyramids of a later date. But it strikes the writer that Professor Smyth, and other Pyramidists, have wasted much valuable time in replying to and confuting the tombic theory, as, in point of fact, as far as radical argument goes touching the features claimed for the building, it would make no difference whatever if a massive mural tablet had been found set in the masonry of the exterior, a lid found on the coffer, a mummy of Cheops in it, &c., &c., as the fact would still remain, that the mausoleum (if you will) and sarcophagus (if so insisted) were designed by an architect who embodied in their construction all the primary truths claimed and verified, while still leaving them suited to secondary and inferior uses, just as the Royal *Scytale* of the Spartan kings, while essential to translating a decree on which hung the fate of nations, might serve or be used for any secondary purpose, even if such was of a no more æsthetic nature

* See "Purpose and Primal Condition of the Great Pyramid of Jeezeh," by St. John Vincent Day. Bell and Bain, 41, Mitchell-street, Glasgow. 1868.

than stirring the cauldron of black broth for the public breakfast.

Therefore, the real and only question is, Whether the great pyramid does or does not contain the metric features claimed for it? If it does, there remains no doubt that the architect who embodied the truths exhibited must have been super-humanly inspired, as in the age in which he lived no such knowledge existed among men. If it does not contain those metric features, demonstrative refutation is within reach of line and rule, and the pyramid stands to be questioned of and reply for itself to all gainsayers. To those who reply, "We admit the measures, but we deny the conclusions drawn from them," the answer is—That if the measures (as in the instance of the base-side length giving the length of the solar tropical year) exhibited but one instance of preconceived design, it might be said that such coincidence was accidental; but when a concatenated chain of design is shown of the highest order of scientific knowledge, the denial of such design in the mind of the architect is of that class which refutes itself by the absurdity of its assertion.

In laying down the volume, any dispassionate reader who has paid due attention to the argument advanced must be impressed with the conviction that, in this our day and generation, no more important question or discovery has arisen or been made than the character and revelation of the Sethic Monument, or Great Pyramid, in, but not of, Egypt.

CHARLES CASEY.

APPENDIX.

I HERE subjoin a letter from the Rev. F. R. A. Glover, M.A., when on his way to India, written to the Astronomer Royal of Edinburgh—not meant for publication—but which is interesting, even in its off-hand style, as showing the critical accuracy of the measurements made in the “granite leaf” key to Pyramidic metrology, as well as the verification of the “Messianic lines” in the first descending passage, which were in the summer of 1872 theoretically asserted by me to be absolutely essential to establishing the *ethical* character of the Pyramid. After some five weeks’ close work on outside lines—face, aris, angles, base, diagonals, vertical lines, &c., tested by all and each of the true Pyramid numbers—I failed to find the sought-for mark, and reported my idea and the failure of verification, to Professor Smyth. With his characteristic courtesy, he looked into the merits of the thesis, and said, “You must search *within* the structure for this class of truth,” and furnished me with Mr. Menzie’s theory—acting on which as a pivot, I began to work afresh with renewed hope, the result being a predication of the existence of the looked-for sign at a certain indicated point in the first descending passage. Having transmitted the opinion, and the reasons on which it was based, to Professor Smyth, I awaited his reply—the delay in receiving which led me to suppose that he had set the matter aside and forgotten it. But no, instead of this I found he had duly noted the existence of the mysterious lines in his already published book, showing thereby the laboriously

minute character of his observation, as they had hitherto escaped the notice of Pyramidal explorers through preceding time ; however, as they were but verbally described there, and not instrumentally measured, he sent to Cairo for solution, without saying what was intended, to be connected with any numerical results that might come out. Then came the astounding reply, giving the undeniable figures testified to by Dr. Grant, of Cairo, as well as Mr. Waynman Dixon, as now again by the Rev. Mr. Glover—that the *thin fine line evidently the work of a master hand*, on either side of the passage, and the existence of which had escaped the observation in any way of all and every writer on the Pyramid, until noticed by Piazzzi Smyth in 1864, *gave the very date, 2,170, within a small fraction of an inch*. The irrefutable and exhaustive demonstration by which Professor Smyth established the discovery of coincidence is to be found in pages 395 to 401 in the second edition of his work, “Our Inheritance in the Great Pyramid,” where it stands solid and immovable as the Pyramid itself, of whose manifold revealed truths it is the chiefest.

REV. F. R. A. GLOVER'S LETTER.

“CAIRO, 12th November, 1874.

“Your letters reached me here four days after my arrival. I have been somewhat unwell, the result of a forty mile drive to the Holy City from Jaffa, which occupied from sundown to sunrise. The journey was performed in a so-called *spring* waggon—a hideous illusion—for the road, though well laid out, seems to have been left in the most complete state of artificial unusableness as regards any approach to comfort, combined with which, the uneatable food, the riding all sorts of horses at all sorts of paces, and finishing with the same

distance back again to Jaffa, on a galloping horse that wouldn't canter, and couldn't trot—and then unstable winds, adversely helped by sea-swell between Jaffa and Alexandria—produced an uneasy and long-abiding qualmishness, which obliged me to seek the assistance of Dr. Grant on my arrival here. I feel, however, so far recovered as to visit the Great Pyramid.

. . . (Later)—I have been to that vast structure in company with a party consisting, among others, of a young Mr. Steele, ship-owner, of Liverpool, who is making a tour round the world, a young Mr. Beecher, cousin of Sir Wrixon Beecher, of the county of Cork, Ireland, and a Mr. Grafton, merchant, of Alexandria. I must now bear testimony, resulting from experiment, by saying that I find the cast of the boss to be most fairly confirmatory of the *entire* of the sacred cubit and its divisions, giving, as it unequivocally does, the inch elevation and the five-inch span, with an inch base for the side slope, and, I think, $1\frac{1}{2}$ -inch base for the upper slope. All this came out most clearly when the model was submitted to test under my small instrument, for it happens that the circular disc which carries the graduations of degrees is *just one inch* in radius ; so, that, when the sector is opened, and its inner edge laid along the horse-shoe span, the (then) lower edge of the disc just all but impinges on the bottom edge of the slope ; and, as the whole width is seven inches at bottom, taking off the inch base at either side, leaves the exact five inches plane on the top, and with whatever irregularity of level—if any there be—as regards the alignment of the lower line of the boss. On the boss itself there is no indication whatever of any irregularity of shape. I am, therefore, led to conclude that speculations on such assumed irregularity are simply speculations on supposed existences, having no foundation in fact.

“ I have been asked more than once, ‘ Why are we to place more reliance on Professor Smyth’s account than on any one else’s ? ’ or ‘ Why should we reject everybody else’s measures, and receive his as correct ? ’—to which queries I have replied by citing the case of some half-dozen authorities asserting that the walls of the ‘ King’s Chamber ’ consisted of *six* layers, and others asserting the walls to be composed of *vertical columns* instead of *horizontal layers*. So when our party reached the King’s Chamber I was there able to demonstrate to them the superior value of *one* good and true witness, compared with a multitude of incompetent narrators, and thus establish your claim to reception as the most correct and laborious of Pyramid measurers, whose account and figures remain unshaken, rejected only by those who have not tested them, or that class of modern, superficial visitors, who merely wish to have it to say that they have ‘ done ’ the Pyramids—who, going into the Pyramid to see nothing, are most successful; and then, having seen nothing, and feeling their unqualified incapacity to grasp the subject, declare oracularly that ‘ It is all bosh ! ’ and, even worse than that, repeat flippantly the shallow mistakes of others, by which, among congenial minds, they become lions of great eminence, but of very, very low degree.

“ In the lecture which I gave at Jerusalem—the Bishop presiding—I had the satisfaction of illustrating the absolute accuracy of your adopted measure of the base-side length of the Pyramid—which had been questioned by Mr. Buldock, M.P.—I trust to the conviction of that gentleman, as well as the Bishop and a most attentive audience. And at the Pyramid, one of our party having quoted the opinion expressed at Winchester by Sir Nelson Pycroft, ‘ that the story about the *Messianic lines* was all bosh ! ’ I took care to let the party

have ocular demonstration of their existence, and thus see the folly of the assertion expressed by the Honourable Baronet, in declaring that ‘the lines *were not there, whatever Professor Smyth or anybody else had said.*’ When I had shown the young gentlemen above-named that the *lines were there*, I said to them—‘Now you see that, however difficult it may be to distinguish them, by superficial observers, the *lines are there*, and I shall ask you to confess now and at all other times *that you have seen them.*’ To this they gladly consented; and so this story and this verification of the *reality of the lines* will be repeated as often as I shall be called upon to speak of the matter, if only ‘*pour encourager les autres,*’ such as the Honourable Baronet, ‘*et hoc genus omne.*’

“But oh! what a wreck within, no less than without, is that great and glorious pile of merciful interpretation, designed to bring home to the mind and conception of man the presence of *special* Providence in his behalf of the great here-manifested Almighty!

“What Jerusalem and its surroundings exhibit (‘the Glory of the Earth’ become desolation, devastation, defilement) obtains equally at this ‘holy mount,’ once all-glorious *within*, without spot or blemish on its radiant golden-sunned surface, but now a ruin, almost a wreck—existing apparently but to be subject to the insult of being supposed to be an erection meant to glorify the contemptible idolatries of a king and people who could find the god of their worship in four-footed beasts, reptiles, and vermin. Let us suppose that the time shall come when its glory shall be vindicated by restoration. For if the Holy City is to be restored, shall not the mount, if *it* was the mount?—and if not this—to which was Moses referred for pattern and reality of number, weight, and measure—what? For is not the Pyramid essentially and

eminently the teacher of measure, weight, and number?—the emblem, in its perfections, of the truth and equity of the Godhead. Will it, then, be permitted that the monument erected to exhibit and declare the attributes of God to the universe shall be left to dwindle, by wasting influence of the elements, into nonentity? Is that monument which bears God's *mark* on the earth, mechanically set up and brought to our perception by irrefragable proof, to be allowed to disappear? No, my good man, don't believe it; you and I may not live to see its restoration; but what if we did? Yet it is no more impossible to restore than it was to build it—undoubtedly a great deal less so. It wants but the will—money follows—and all the Lord's people will be *willing* in the day of His power, when once again shall be raised the words—'Grace, grace unto it!' 'Grace to that which was begun, set up, and finished, before *Abraham was*, to the glory of the Eternal,' as I Am's self had said; and shall we to whom grace has been vouchsafed as chosen to bear witness of the great work, shall we think that the 'Galilean' has spoken in vain? Verily not.

"Concerning the interior devastation of the grand thing, I must say that now, having seen its apparently almost irrecoverable condition, I am impressed with a great admiration of those who laboured, almost against possibility in measuring, in such a hopeless place of work, and yet who so wonderfully succeeded in producing that fair and intelligible representation of the ruin exhibited by the measurements and drawings of C. Piazzzi Smyth, aided by his incomparable wife.

"Never mind, then, good people. Let the Devil's agents howl their curses along with their master! 'The Lord will have them in derision.' That little line, true to '7 of an inch will laugh them to scorn—that thing, which has length *without*

breadth or thickness, is, as it were, the rod of iron of the great Shepherd King, that will break in pieces all that oppose. Nor is the time distant, for doubtless the day of redemption draweth nigh!

“And indeed the Pyramid itself, by the rapidity of its decay, seems to require or indicate that the time should not be long. The ante-chamber is being more and more wrecked, and the white stone of the floor fast disappearing. Dr. Grant tells me that Mr. Waynman Dixon has taken the distance from socket to socket by the theodolite, and worked it out by trigonometry; but as, I regret to learn, he will not return here for three months, his figures are not accessible. I must confess to being anxious to realise the measure of 761·68 feet myself; and, having with me the makings of a 50-foot brass measuring rod, whose length will greatly reduce the difficulty—or, at least shorten the process—I shall try and persuade Dr. Grant to go out with me on Monday next and test the measure.

“Your observations on the present state of the so-called Christian mind are terrifically *true*, and a letter received from Germany records, I regret to say, the same opinion in just so many words—too confirmatory, alas! of the need of that being done which I have been proposing for India.”

THE QUEEN'S CHAMBER.

The readings of this chamber are alluded to by Professor Piazzzi Smyth thus—in his contribution to No. 11 of Mr. Hines' serial, *Life from the Dead*—"Deep in the almost solid interior of the Great Pyramid, in its white-stoned, seven-sided chamber, called in modern times 'The Queen's Chamber,' there is a metrical reference, not only to a cycle of seven days, but to six ordinary days succeeded by a seventh of more elevated character; making altogether a sufficiently recognizable symbol of the true Biblical week, a period of time peculiar in construction to the earliest Divine command to men contained in the Scriptures; and which was in its origin equally binding on all mankind, though in subsequent ages made more especially obligatory on the Hebrew people alone;" and in "Our Inheritance," page 360, *et seq.*, the following features are given:—

- (1.) The central axis of niche in east wall is removed one sacred cubit's length southward.
- (2.) The top of niche is somewhat less than a cubit in breadth.
- (3.) The height of niche multiplied by π , and that by pyramid number 10 = the height of the Great Pyramid; or $185 \times \pi \times 10 = 5,812$.
- (4.) The height of niche, less height, of its inner species of long shelf, equals half of base-side length of pyramid, or $185 = 39.6 \times 10 \pi = 4,568$ inches.

- (5.) The height of the north and south walls measured = 182·22 pyramid inches $\times$ 1 inch, and assumed 182·62, give

$$(1) \frac{182\cdot62 \times 10}{2} = 9,131 = \text{length of pyramid's base-side in p. inches.}$$

$$(2) 182\cdot62 \times 2 = 365\cdot24 = \text{solar days in tropical year.}$$

- (6.) The breadth of Queen's Chamber measured = 205·6, assumed 205·0, gives 182·62 : 205 :: 205 : 230·1 = height of King's Chamber from floor to ceiling.

- (7.) The square root of 10 times the height of north or south walls, divided by height of niche = π ; or

$$\pi = \sqrt{\frac{182\cdot62 \times 10}{185}}$$

Professor Smyth accredits the discovery of theorems 3 to 7 to Professor Hamilton Smith (of Hobart College, Geneva, New York), who sums up his study of that room in the two following propositions:—

1st. Either there is proof in that chamber of supranatural inspiration granted to the architect; or

2nd. That primeval official possessed, without inspiration, in an age of absolute scientific ignorance, 4,000 years ago, scientific knowledge equal to, if not surpassing, that of the present highly developed state of science in the modern world.

It remains for those who deny the claims put forward on behalf of the use and meaning of the Great Pyramid, to choose either horn of the dilemma, or else disprove the mathematical results on which the propositions are founded.

From a number of suggestions which have been forwarded

to me, I subjoin that of a venerable Christian lady as being worthy of consideration:—

“SHEM—PHILITIS—MELCHIZEDEK.—In Patriarchal times the Head of the House was Priest of the Family, as we see Abraham was to his Tribe—hence, Shem, the father of the race in which Abraham was born, was High Priest (for them) to the Most High God. He lived for some thirty-four years after the death of Abraham (taking the marginal chronology of the Bible as record), and being Head, and Priest, must have been the Melchizedek to whom his son Abraham gave the tithes of all for God’s service, and who administered to Abraham the sacramental bread and wine.

“Can we, then, wonder that the builder of the Great Pyramid, Philitis, was acquainted with the scientific facts embodied in the structure? as being inspired by the Most High God at the time of its erection.

“The days of Shem’s Priesthood did not begin at the 20th or end at the 50th year, as did those of Aaron and his sons, his Priesthood continuing nearly half a century after the death of Abraham.

“C. L.

“Sept., 1875.”

I have decided on excluding from present edition the Metrical Disquisition attached to former editions—being urged to do so by the Bookseller’s argument, that “Poetry is at a discount in the present age.” But on mooted the question amongst a large circle of readers, I find that the great majority of opinion is in favour of the Octaves referring to the Great Pyramid being retained, and accordingly they are inserted.

UNITS AND STANDARDS

OF THE

GREAT PYRAMID SYSTEM OF METROLOGY.

(1.)—LINEAR MEASURE.

The sacred cubit of both Noah, the Great Pyramid, Moses and Solomon	} = {	Length of Earth's semi-axis of rotation divided by 10^7 .
"	"	= 25· Pyramid inches.
"	"	= 25·025 British Imperial inches.
"	"	= 23·481 Old French inches.

Application to SQUARE MEASURE.

A square of 100 sacred cubits in the side	=	One Pyramid acre.
"	"	= 0·999 of the British Imperial acre.
"	"	= 0·957 of the old French "arpent commun."

(2.)—WEIGHT AND CAPACITY MEASURE.

One Pyramid pound weight	=	Weight of 5 cubic Pyramid inches of Earth's Mean density.
"	"	= 1·028 of the British pound avoirdupois.
"	"	= 1·050 of the old French pound, "or poids de marc."
One Pyramid pint measure	= {	One Pyramid pound, or $5 \times 5\cdot7$ cubic Pyra- mid inches, of water, at temperature 50° Pyramid (68° Fah.) and barometrical pressure = 30· inches pyramid.
"	"	= 0·987 of the old British wine pint.
"	"	= 0·836 of the old French "chopine."

(3.)—TEMPERATURE MEASURE.

Freezing of water	=	0° Pyramid scale of temperature.
$\frac{1}{5}$ from freezing to boiling	=	50° Pyramid (68° Fah. 20 Cent).
"	"	= Mean temperature of all inhabited lands.
"	"	= Most suitable temperature for the health of man.
"	"	= General reference temperature for all Metrology.

(4.)—ANGULAR MEASURE.

The whole circle	=	1000° Pyramid.
Prime Meridian for Longitude reckoning by all nations	} =	The Meridian of the Great Pyramid.

(5.)—TIME MEASURE.

Era for present reckoning begins with the Birth of Christ, in solar years.

Shortest day period = The Biblical week, of six working days, followed by a day of rest devoted to nobler thoughts.

Date of the memorialisation of this system in stone = 2170 B.C.

Chronological dial, the Precessional circle of the Pole of rotation in the sky, whose whole cycle = 25,827 years.

C. P. S.

“THE RELIGION OF THE GREAT PYRAMID.”

In *Frazer's Magazine* for March a contribution under the above heading has appeared from the pen of Richard A. Proctor, in which he has proved—to his own entire satisfaction—that a demonstrated concatenation of facts, in which the most unquestionable evidence of design is apparent and provable, is merely a series of *accidental coincidences*. The article in question is, in itself, a very curious illustration, however, of a design without any coincidence of proof to support it—the design being to subvert the theory of the Great Pyramid as a symbolic monument—the means used in support of his protest a lavish indulgence in elastic terms, such as “seems,” and a putting forward, with serious unconcern, statements alleged to be facts, which are, in reality, pure fiction.

As a magazine astronomical imaginalist, Richard A. Proctor holds a foremost place—a writer whose contributions to the serials are prized by the fortunate editors who can secure them, and thus excite to the utmost, and satisfy to repletion, the appetite for the wonderful in the popular mind; and we confess to the weakness of seizing with avidity—when wanting relaxation from our work—any of R. A. P.'s articles that may be fortunately within reach. Then laying aside the clog of critical test—luxuriously credulous, indulging in an Arabian Night's receptivity of belief, delivering ourselves to the vigorous grasp of the Genie of astronomical romance—we enjoy the being whirled through the depths of space, lulled by stupendous speculations as to the stellar universe and the immensity of infinitude, launched through the immeasurable æons, and sublimated by visions of the “wreck of matter and the crash of worlds.” Yes; we confess a weakness for

the contributions of this gorgeous writer, who, when soaring through the infinite on pinions radiant with hues of imagination, is as a veritable bird of paradise in the ether of literature, and we always lay down his articles with the Dominie Sampson exclamation, "pro-di-gi-ous!" But on the present occasion, when—earth-tending—R. A. P. perches on the apex of the Great Pyramid, there is a sad change of plumage, and we find only a resemblance of that bird sacred to Athene, of which Virgil has written—

"Solaque culminibus ferali carmine bubo,
Sæpe queri et longas in fletum ducere voces."

"Perched on the roof, the bird of night complains,
In lengthened shrieks, and dire funereal strains."

It is to be regretted that Mr. Proctor should have left his proper sphere and confronted a rigorous thesis without at least having thoroughly acquainted himself with the matter he discusses, the theory of the Great Pyramid being such that reckless temerity will not supply the place of argument, nor imagination prevail against mathematical demonstration.

But as Mr. Proctor has decided on rushing upon this subject, there is nothing to be done but follow him, and see how far his argument goes. In the first place, then, let us take an instance from his opening paragraphs, in which he professes to enumerate the things believed in by the Pyramidists, by stating that they claim having discovered in the monument, among its *standards*, one of *money*. Now, it so happens that the very reverse of this statement is the truth, as may be seen in the following extract from Professor Piazzzi Smyth's work ("Our Inheritance in the Great Pyramid," pp. 270, 271), the *index* of which Mr. Proctor may have read, but could not have read the book itself, else he would not, we are persuaded, have ventured to allege as above, the exact opposite of the

truth. Professor Smyth writes thus:—"Wherefore many inquirers have demanded, 'What about *money* in the Pyramid?' I can only answer them, *that I have not been able to find out anything about that subject in the Great Pyramid.*" The italics in the foregoing are sufficient to drive home and rivet Mr. Proctor's first false assertion, but more audacious inaccuracy follows (as might be expected) this initial error. Mr. Proctor, in discussing the geographical position of the Great Pyramid, is serenely imbued by the conviction that had a mind, gifted as *his*, been consulted by Philitis, that inspired architect would have had his symbolic monument raised one mile and one-third north of its present position, and would have had his socket angles more perfectly placed to secure due and perfect orientation of base line. Further, Mr. Proctor shows not only that Philitis used the stellar method for determining latitude, but also for ascertaining the meridian or north and south line; and not only shows what should have been done, but boldly asserts that such was done. On page 336 Mr. Proctor writes:—"From the *middle* of the northern side of the intended base they would bore a slant passage, tending always from the position of the pole star at its lower meridional passage—that star, at each successive return to that position, serving to direct their progress, while its small range east and west of the pole would enable them most accurately to determine the star's true mid-point below the pole—that is, the true north." Having thus shown what should have been done, Richard A. Proctor, on page 337, solemnly answers us in a triumphant manner as follows:—"Now, *there is* a slanting tunnel *occupying precisely* the position of the tunnel which should, according to this view, have been formed in order accurately to orient the Pyramid's base." Here, again, the italics which have been given are

alone sufficient to show the heroic disregard of accuracy which distinguishes Mr. Proctor's argument.

It is quite true that there is a slant tunnel in the northern face of the Pyramid (the entrance passage), but it is quite untrue that that passage is in the *middle* or meridian plane of the base line, its position being some 300 *inches east of meridian of Pyramid's northern base line*, and *not* on it. However, Mr. Proctor may have been studying Al-Mamoon's theory of entrance, and may be consoled by knowing that he is quite as well informed as to its true position in this year of grace, 1877, as was that enterprising Kaliph who, in A.D. 820, acted on Mr. Proctor's theory by tunnelling in at the *middle* of the northern side, beginning his work also some 250 inches too low, and boring on in search of entrance passage vainly until, aided by an unexpected falling of a stone on one side of him, he at length broke sideways and with immense difficulty (because the wrong way) into the true passage, low down in its course.

Before reaching his tunnel theory, Mr. Proctor, referring to three demonstrated facts, writes as follows (page 133):—
 “ Still more fanciful are some other notes upon the Pyramid's geographical position—as (1) that there is more land along the meridian of the Pyramid than in any other all the world round; (2) that there is more land in the latitude of the Pyramid than in any other; and (3) that the Pyramid territory of Lower Egypt is at the centre of the dry land habitable by man all the world over.” There is no attempt at test or denial of the facts stated, but there is a mode of reasoning adopted which is “ still more fanciful ” than the imaginative theory of the entrance passage, viz.:—“ It might be regarded as not a mere accident that the Great Pyramid stands at the centre of the arc of shore-line along which lie the outlets of

the Nile; or it might be regarded as not a mere coincidence that the Great Pyramid stands at the central point of all the habitable land surface of the globe; or, again, any one of the other relations above mentioned might be regarded as something more than a mere coincidence. But if, instead of taking only one or other of these four relations, we take all four of them, or even any two of them, together, we must regard peculiarities of the earth's configuration as the result of special design, which certainly have not been so regarded by geographers." Now, the question is not whether geographers have hitherto believed that the configuration of the earth was without design, nor whether Mr. Proctor believes with those heretics who deny design in all or any of the Creator's works, but the question is, first, are the alleged facts in connexion with the geographical position of the Great Pyramid true? and, second, if true, can their combination be rationally supposed to be fortuitous? As to the first part of the question, its truth has been demonstrated already by Professor Smyth, and therefore needs no further allusion here ;* and as to the second part, no rational and unprejudiced man, possessing a limited knowledge of the mind-reach and power exhibited by the Pyramid's architect, can for a moment suppose it possible that, either in his choice of site or details of building, anything of chance or accident entered into a work wholly resulting from the most evident design. But the curious part of Mr. Proctor's line of argument is, that he considers "the very fact that the four conditions (above alluded to) *can* be fulfilled simultaneously, is evidence that a coincidence of the sort may result from mere accident." Well, it may be

* See treatise on "An Equal Surface Projection for Maps of the World, and its application to certain Anthropological Questions." By C. Piazzi Smyth, F.R.SS. L. & E. Edinburgh: Edmonston and Douglas, Prince's-street. 1870.

evidence, but what sort of evidence?—perhaps that kind of evidence which Mr. Proctor is habitually satisfied with—but to reflective minds it is an evidence of the most conclusive kind in favour of design, and against accident; but with Mr. Proctor the extent of doubt seems to be in exact proportion to the amount of proof.

Reflecting on the charge of scepticism which might be justly made against the denial of design, a note has been added, which reads as follows:—"Of course it may be argued that nothing in the world is the result of *mere* accident, and some may assert that even matters which are commonly regarded as entirely casual have been specially designed. It would not be easy to draw the precise line dividing events which all men would regard as, to all intents and purposes, accidental, from those which some men would regard as results of special Providence. But common sense draws a sufficient distinction, at least for our present purpose."

It may be legitimately urged that when a writer denies design in the work of the Creator, whether in the minutest details or the entire sum, he is debarred from a *locus standi* as either a true philosopher or a religious man. If we adopt the theory of a modern French astronomer, and believe that "we have no need of the hypothesis of God," then indeed we can revel in the supposition or assertion of *chance* and *accident*; but when a man believes that—

"Behind creation and its myriad laws,
God stands—the great originating cause,"

he is driven by the imperative force of reflection to an inflexible faith in their being no such thing as either chance or accident in the works of an omnipotent and all-wise Creator; and it is only when recusant to this, the true faith, that the plea of expediency in the use of such a term as

“common sense,” can be had recourse to. We know that this term, “common sense,” when it means anything, means understanding, unaided by a knowledge of the rules of reasoning, and therefore a most unsafe authority on matters requiring the exercise of an educated mind. Mr. Proctor knows this well enough—knows that when common sense tells him “that the earth is stationary, and not holding a revolving flight through space with enormous velocity—that the sun, moon, and stars revolve round the earth, &c., &c., he at once rejects the opinion of common sense as being synonymous with error. But here—when a question arises much more elevated than the astronomical illustration—Mr. Proctor thinks that common sense is qualified to draw a sufficient distinction, at least for his present purpose—that purpose evidently being to lead his readers to believe that the coherent and concatenated proofs of design in the expressional features of the Pyramid are merely chance coincidences.

Passing by the purely assumptive and unproved hypothesis of a vertical plumb bore from subterranean chamber to centre of Pyramid’s base, we come to the descant on measure of base side length, in which Mr. Proctor labours with pitiable inefficiency to show that its length of 9,140 inches is not correct—his argument being that as four of the “best measures” give the length variously as 9,168, 9,163, 9,130, and 9,110, the extracted mean of 9,140 is inadmissible—and this, too, when he admits “that the Pyramid base is not now in a condition to be satisfactorily measured.” If Mr. Proctor had any true idea of the insurmountable difficulty of measuring the sides’ length of base, owing to the intervening hills of concreted rubbish that lie solidly piled against the sides, he would have generously accorded unqualified praise to the measurers, who had so closely approximated to the real and

true length which is given by the mean of their measures, instead of requiring a result such as might be demanded if the Great Pyramid had been intended solely for pure mathematics; for in such, a thing either is or is not—without the smallest doubt or fractional part whatever. But in astronomy, geography, metrology, physics, and, in fact, all applied mathematics, all that man has done yet, or ever will do, is to make approaches to exact truth; and so, even in measuring the Great Pyramid, the final result is only certain as to within what *limits* the truth must be, and it comes out, whether R. A. Proctor likes it or not, that within those limits are also contained the best modern science approaches to the measure of two or more features of God's universe, each of which feature is further pointed to, more or less in spirit or meaning, at the Great Pyramid. Hence the *shape* of the Great Pyramid does express the squaring of the circle, and the *size* does *both* give a base side measuring the days of the year in terms of a cubit the $10^{7\text{th}}$ of earth's polar semi-diameter, and *also* gives a vertical height $10^{9\text{th}}$ of sun's distance. Modern science cannot disprove these truths—in fact, the better the work of modern science, the more undoubtedly is it established that those different truths are equally there—even, too, although the building was also used as a tomb or a national monument; and although, in the third place, some of the very same measures of length, breadth, and weight are *also* found to tally with numbers from Daniel and Revelations, with regard to the religious and prophetic history of man.

But, in brief, it may be replied to the doubt as to design, that when design is denied in the works of the Creator, we are quite prepared to place at its true value of worthlessness the doubt also expressed as to the presence of design in the

work of the architect, whose mighty monumental protest crowns the Ghizeh Hill.

Mr. Proctor seems not to have known that the base side length of the Pyramid (so closely got at by outside measurements) is given fractionally correct in the ante and King's Chambers, and he would have done well had he studied the demonstrations on this point given by Major Tracy, R.A., and the Abbé Moignon, before rushing to the conclusion that the base line was an unknown and but an assumed quantity.

The record of equinoctial precession is, according to Mr. Proctor, a very singular coincidence; but it is a much more singular coincidence that the series of absolute facts exhibited by the position and metrology of the Pyramid are successively set down by Mr. Proctor as being the results of chance or mere coincidence—a conclusion, to reach which, requires a judgment “moved by the most energetic forgetfulness” of unprejudiced reflection, by the spirit of doubt. In dilating on the sun distance, as given by Pyramid metrology, the same spirit of persistent disregard of demonstration prevails, so much so as to render a detailed reply superfluous; for Mr Proctor (referring to the Pyramid's sun distance metrical maximum) admits that—If we take the relation as exact, we should infer for the sun's distance 5,819 thousand millions of inches, or 91,840,000 miles—an immense improvement on the estimate which for so many years occupied a place of honour in our books of astronomy. Besides, there is strong reason for believing that, when the results of recent observations are worked out, the estimated sun distance will be *much nearer this Pyramidal value* than even to the value, 91,400,000, recently adopted.” It is but necessary, as before, to *italicise* in order to illustrate the conclusion which follows in Mr. Proctor's mind. He says:—“ This

result, which one would have thought so damaging to faith in the evidence from coincidence—nay, quite fatal after the other case (equinoctial precession), in which a close coincidence had appeared by merest accident—is regarded by the Pyramidalists as a perfect triumph for their faith.”

There is no use in following an argument of this kind. Where the stronger and more perfect the evidences of knowledge and design are apparent, the more emphatically are they pronounced to be casual or merely accidental.

The article of Mr. Proctor ends consistently with two garbled extracts from the work of Professor Smyth—when, instead of setting forth the author he is reviewing in a terse and compendious manner to his readers, he tries to make him ridiculous by such perversions as these:—In his last column he has a quotation (A) from “Our Inheritance,” about little matters of inches of height of a pyramid passage, and then proclaims that on such material the Great Pyramid men “base their religious belief”—giving a second quotation (B) from a part of the book totally different from quotation (A), there being nothing at all like (B) near (A), the one relating to the transverse and vertical height of the entrance passage. The other, an extract from a contention against the ultra-rationalistic doctrine of an Oxford clergyman, declaring that Jesus Christ and Christianity were no more Divinely inspired than Romulus and the Roman religion, or Menes and the Egyptian religion, or any other religion that has ever been successfully—for a time—propagated amongst men.

Such an unwarrantable course as this, when pursued by a critic, divests his opinion of all weight, for any author can be made to apparently write incoherently by picking out a paragraph from one part of a book on one subject, and another from another part on a different subject, and then setting

them together as if the two had mutual relation and followed one another in the author's work. It is a sorry method, more ingenious than ingenuous, and would have been perhaps rightly treated by being *let alone most severely*.

The sum of the matter is, that Mr. Proctor and others would have little difficulty in admitting the scientific claims of the Pyramid, if the claim to its being a metrical appendix to Bible truths were withdrawn. That claim it is which rouses the opposition of most of those who zealously, but in vain, deny the grant of Divine inspiration to Philitis; and yet, if the Pyramid were but a record of the scientific proficiency of its builders, it would have little more than an antiquarian interest, which modern science can well afford to disregard. But its glory and its importance attach solely to its chronometric prophetic record, which feature will continue to recommend it to the minds of Christian men as being an irrefragable testimony to the truth of the Bible, nathless the doubts of those who, with inefficient wantonness, scoff at its revelation as if it were some *new religion* which some people have been inventing, whereas the "Religion of the Great Pyramid" is, in truth, the Religion of the Bible, to the inspiration of which it testifies by an evidence alike conclusive and infallible.

Following Mr. Proctor's article in *Fraser*, and aiming distinctly at the same end—viz., the taking from the Great Pyramid everything of a sacred symbolic character—there has been published in London a caricature diagram of the passages section of the Pyramid. The sheet has been got out anonymously, and is meant to impress its readers with the belief that the sacred prophetic metrology of the passages—as first discovered by Mr. Robert Menzies—is but a

“fanciful exegesis of that wonderful monument,” the record on the back of the diagram being as follows:—“The many scientific and cosmic references, and Scripture symbolism of the Great Pyramid (in contrast with all the others), have been first and chiefly set forth by Professor C. Piazzzi Smyth, F.R.S.E., &c., Astronomer Royal for Scotland, in ‘Life and Work at the Great Pyramid,’ and in ‘The Antiquity of Intellectual Man,’ and in a work on ‘Equal Surface Projection for Maps.’ These are indeed (almost all) well proved, deeply interesting and important truths, but their value necessitates the greater care that they become not mingled with false and fanciful exegesis of that wonderful monument.”

Now, the Scripture symbolism of chiefest importance in the Pyramid are those of its prophetic metrology, whereby were foreshown the dispensation from the dispersion of mankind at Babel to Moses, the Hebrew dispensation, the present or Christian dispensation, and in the latter the date of the Nativity—yet those are the very revelations which it is the object of the diagram to invalidate. The plan of the diagram is cunningly devised, and such as might deceive those who have not studied the subject. On the one side we have duly scaled what are termed “marks without events,” and on the other a list of “events without dates.” To make the lists “work,” a simple but most efficacious plan is adopted—namely, a denial and alteration of the critically established and generally admitted initial dates of Pyramid chronology—as, for instance, that of the Nativity—that event being asserted by the diagrammists to have occurred “3 to 5 B.C.” With an elastic assumption of this kind as an argument, there is no difficulty in an apparent disproof of the Pyramid’s sacred metrology, or of any chronological record which may be recklessly attacked. But any one reading the dissertation of the Rev. B. Galloway on the Nativity date,

will have no difficulty in concluding that the assertion of the diagrammists is a positive error. On a par with the foregoing in the matter of audacity is the argument—or assertion rather—that “Babel cannot have been at the date theoretically assumed (the beginning of the entrance passage), as there was not then enough population to build it.” This sort of argument may be heroic, but it is not conclusive. Would it not have been better to have supported the assertion by something like a statistical record, rather than put it forward in a purely dogmatic form, especially as such record was readily to be found? for on turning to the 10th chapter of Genesis we read an enumeration of the generations of the sons of Noah, which ends thus:—“These are the families of the sons of Noah, after their generations, in their nations; and by these were the nations divided in the earth after the flood.” Reading this in connexion with the wild assertion that “there was not enough population” to build the Pyramid, is sufficient, one would think, to show the entire worthlessness of the diagrammist’s assumption, even if we refrained from alluding to the work done by the existing population at the Tower of Babel, which oriental writers, with their usual exaggeration, say was 10,000 fathoms, or 12 miles high; or, taking the account of St. Jerome—which he asserts he had from those who examined its remains—rose to a height of four miles; but in all soberness a stupendous work requiring a multitude of builders. Another assertion advanced by the authors of the diagram is that “the Great Pyramid is really 2168 B.C.; according to Brunnow’s data, given as correct by Professor Smyth, this is 2164 years before the birth of Christ, whereas the line in the passage is 2170 before the point supposed to show the Nativity—a difference of six years.”

Now, the truth in the matter is—as anyone can see for themselves by reading the connexion in “Our Inheritance”—

that Professor Smyth, while giving Brunnnow's computation for what it is worth, adheres to his own date—2170 B.C.—and advances excellent reasons for so doing. As to the record of “marks without events” on the diagram, they are simply marvellous in their absurdity. Every pivot-hole and cut-off in the passages is indicated, and events wanted to match; even the horizontal passage to Queen's Chamber—where nobody ever did look for metrological concordance—is placed under contribution, and, as might be expected, without result. But the “events without marks” catalogue is, if possible, more marvellous than the other; it would seem to be an extract from historic chronology, in which a mark is wanted for “Judas Maccabæus, Papal Persecutions, the Reformation,” &c., &c., the wonder being that a call is not made for marks indicating Julius Cæsar, Mohammed, Napoleon Bonaparte, the discovery of America, *and* the publication of the anonymous diagram.

Such puerile sophistry is worth comment only as showing what men will sometimes descend to under the impulse of prejudice or incredulity. What the inspired architect of the Pyramid did evidently foreshow were the great world-influencing events of Time—the Divine dispensations (not the detailed results) of human history. Thus the great epochs of mankind's dispersion and of the Hebrew and Christian dispensations are the grand foreshown revelations of Philitis; and if in the measurements of his record any minute errors occur, such errors are those of the instrumental translators—not of the work of the architect.

NOTE.—I have just had sent to me a pamphlet by Watson F. Quinby, M.D., of Wilmington, Delaware, United States, which is devoted to the exposition of a wide and deep research in ethnology. The concluding remarks of the treatise are so remarkably coincident with the date result of the Pyramid regarding the termination of the present dispensation, that I give them in full:—

“From the race of Adam, Noah was selected to be the father of the future

race; from the race of Noah, Abram was selected; from the race of Abram, David was selected; and from David, on the mother's side, arose Christ—part human, part Divine—to be the head and type of a new race, which is now being selected from the earth.

“He came to establish the kingdom of heaven upon earth, and this is what he taught—‘Repent, for the kingdom of heaven is at hand.’ His disciples expected that it would be set up immediately, but he gave them to understand differently, promising to return at some future time and establish his kingdom. All the prophets are agreed as to this matter. There were to be four great kingdoms to arise in succession on earth, to be then followed, *without change of scene*, by a fifth and final kingdom. This kingdom is to endure for ever—it is, moreover, to be established during the existence of the previous races. Eventually, however, there is to be a new heaven and a new earth. As everything on the surface of the earth was once said to be destroyed by water, so after a time it is said the same complete destruction will come by fire, leaving nothing alive. Then the souls of the dead will be rehabilitated with new bodies, and live on the improved earth for ever. . . . The literal fulfilment of the greater part of the prophecies of Scripture makes us naturally solicitous in regard to the complete accomplishment of the remainder. The rise and fall of the three great empires mentioned by name—the Babylonian, the Persian, the Grecian, and the fourth so well described as evidently to refer to the Roman—have all taken place as foretold; and the time seems approaching for the setting up of the fifth and final kingdom. ‘A great day of preparation’ for this event is foretold, when ‘many shall run to and fro,’ and ‘knowledge shall be increased,’ which may well refer to our own day.

“‘He that dasheth in pieces is come up before thy face; keep thy munition, watch the way.’

“‘The chariots shall be with flaming torches in the day of his preparation, and the fir trees shall be terribly shaken.’

“‘The chariots shall range in the streets; they shall seem like torches; they shall run like lightning.’—(Nahum.)

“The rapid development of art and science within the last hundred years is the most remarkable in the annals of the world—‘When shall these things be?’ In the book of the prophet Daniel it is said—‘Seventy weeks are determined upon thy people, and upon thy holy city.’ Seventy weeks of years would be 490 years, at which time Jerusalem was destroyed by Titus. In another vision, though near the same time, he says—‘How long shall be the vision concerning the daily sacrifice and the transgression of desolation, to give both the sanctuary and the host to be trodden under foot? And he said unto me, unto two thousand and three hundred days.’ These days are usually considered to mean years. Now, Jerusalem was destroyed Anno Domini 70. In order, then, to bring the date to the commencement of our era, the 70 years must be taken from the 490 years, which leaves 420 years.

“Four hundred and twenty years taken from two thousand three hundred years, leave eighteen hundred and eighty years, which brings us to the year eighteen hundred and eighty-one (1881). ‘Then shall the sanctuary be cleansed,’ whatever that may mean.”

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54, Paternoster-row.]

THE INFIDEL SPIRIT OF OUR AGE.

By CHARLES CASEY.

EVERY reflecting man, whose observation and knowledge has been applied to the present aspect, or mind-drift of our age, must be deeply and sadly impressed by the hue of infidelity reflected on its current, if not penetrating its deeper volume; owing in part to political causes, in part to the natural vanity of our nature in the desire to be superhumanly wise, but making itself felt in any case through the literature no less than the social relations of our time. That there may be no misapprehension of my meaning, let me say that by infidelity I mean anti-Christian principles, whether they take the form of nature-worship—scientific substitution of the laws of the Creator for the Creator himself; Pantheism, or the recognition of God in every one of his works, not as resulting from, but constituting the Divinity; Intellectualism, as deifying the human mind to the exclusion of a consideration of the mind of God; or in that—the lowest of all types of infidelity—Sadduceeic-materialism, that worships only those things which appeal or minister to the senses, passions, or appetites of the mind, and which is essentially of the earth, earthy. This general state, comprising within it the classes mentioned, as well as many not classified, may be said to prevail largely in Europe and America, and it is against this growing, spreading evil that the Christian Church has to do battle.

Lest some should imagine that there is a disapprobation

conveyed of learning, science, or intellectual things in the above, it may be as well to say that in their proper place and sphere such are alike excellent and admirable ; but that sphere, and that place, is when they are ministers subservient to the glory of God and the real good of man, but are alike execrable and degrading when divorced from these two ruling motives. Let science bend itself to the task of tracing causation to its secondary link, and winning from nature her jealously-held secrets, in order that man may be freed from the condign punishment with which she visits any infraction or non-observance of her laws, whether such transgression or disregard arise from an ignorance or wilful slight of them, and with reverent humility worship the divine grace which rewards such labours with success. Let learning employ its power to acquaint us with all and every of the histories of events, nations, great, good, or famous men, from which we may learn to be wiser and better. Let art, manufactures, commerce, and industries be prosecuted with honest zeal, and from high motives. But science, learning, art, manufactures, commerce, and industry, all are bounded by the temporal state of our existence, and therefore should ever be held by conviction as absolutely secondary to that which relates us to the immortal state of man's existence, to the unseen towards which we are momentarily gravitating—whitherward the universal soul of man, barbarous and civilized, yearns earnestly, save when its innate nature is crushed by an intellectual depravity which is of the evil one, or buried beneath a crass ignorance, the less deplorable of the two Sadduceeic falsities.

To the thoughtless, and to superficial thinkers, there is a meretricious attraction in learning and science without regard to the offices they fill—they are as the flame to the moth ;

hence men who have attained eminence in those departments of the mind, yet who are infidels in religion, attract by their ability swarms of moth-like mentalists to be scorched in the flame of their false principles. But if such persons would pause, and reflect on the comparatively low altitude to which the human mind has reached, or can attain in its highest flight into the region of ultimate truth or causation, when God is left out of its thesis, they would then hold at its true value what is called "the advanced opinion" of our time.

Let such thinkers place before their idols the phenomena of life, death, growth, function, will, that which is called accidental in events, or any other of the every-day problems of life and time, for solution, and see how that "bare, bald, and tawdry as a fingered moth," sophist and philosopher alike stand in their presence when God "the Almighty, Eternal, and Invisible," is separated from the vain and vicious theories which would ignore the Creator and deify the creature—reverence the effect, and despisingly deny the cause. Contrasted with such crude, comfortless, and unsatisfying speculations, how glorious and soul-filling is the belief and trust in that revelation of God to man contained in His inspired Word, which places before the human mind, as the object of its faith, a God "who pitieth us, even as a father pitieth his children." Mighty to save, and more ready to grant than we to ask, every good and perfect gift, in whose grace we live and move and have our being—with whom the soul can ever hold communion in and through the vicissitudes of human life, ever in the darkest hour sustaining it by the hope of that rest which remaineth for the spirits of the just made perfect—showing the true value of time as measuring this our frail, fleeting, transitory life, by holding up to the eye of faith the promise and the

glory of the incorporeal sequence of our earthly existence—the real and indescribable beatitudes of everlasting life.

Furthermore, let the contrast be carried down from the spiritual excellence of Christianity when compared with the frigid religion of Intellectualism, and let the results of the divine principles which the Saviour taught as relating to man and time be considered in comparison with the results achieved by the highest development of heathen mind, and we find that all of broad-based humanity, of charity, of benevolence springing from it as from a root, of virtue, worthy of the name, of heroism, founded in abstract principle, not in impulse or applause, of honesty in thought, speech and act, from the same motive—in short, all that has tended to truly civilise and elevate man for 2,000 years, as having resulted from the teachings of Christ, and prevailing most in those nations which have in the greatest degree preserved and acted on that teaching in its purity; and although much remains, in this our time, of evil, the conclusion is definite and clear, that evil remains only in that degree resulting from a departure by men or nations, in act or principle, from the heavenly teachings of the Prince of Peace.

The question then remains, what hope does the future hold of a better state of things? This—that this sporadic, or perhaps epidemic mental disease of infidelity, will have assuredly its decline as well as its cumulative period and crisis. Truth is of God and everlasting. Falsehood is of Satan and temporary—there may be here and there a seeming triumph of error over righteous belief—but

“Truth crushed to earth will rise again,
The eternal years of God are hers,
But error wounded writhes in pain,
And dies amid her worshippers.”

In the meantime it becomes the duty and privilege of every Christian man and community to do battle stoutly for the faith once delivered to the saints, according to the ability that God hath given them, whether it be in the van of conflict or the fortress of steadfast faith; at all times and in every place ready to testify that "Christ was the true light which lighteneth every man that cometh into the world," and that all who are not with him are against him. And there is also the additional fact that if there be activity in infidel manifestation of mind, such demonstration has aroused the religious sentiment into militant position, and none but those of weak or unstable faith can entertain any doubt of the issue, when the record of what God has done for his Church, in the old time before us, is remembered, and that unfailing promise—"Lo, I am with you alway, even unto the end of the world."

AN INFIDEL ANSWERED.

“ Ne sutor ultra crepidam.”

As a typical illustration of the objections which are used against the theory of the Great Pyramid, I subjoin a critique on “Philitis,” which has been recently sent to me as being from the pen of “a very clever man—an open and professed unbeliever in divine inspiration in the Bible, and everything else—so clever as to be able to lead other men’s minds astray.”

The name of the critic I have not been favoured with; therefore, having no knowledge of him, I shall be able to consider his remarks without the disturbing element of personality interfering with my comment, and may fairly conclude that the critique which follows contains all that could be said by an intellectualist, such as the writer is represented to be. A copy of “Philitis” having been sent to this writer for his opinion, he replied as follows:—

“It is difficult to review ‘Philitis’ seriously. It is a book, while it would have delighted the late Professor De Morgan to honour, he would have classed the author with ‘squarers of the circle’ and ‘searchers for the philosopher’s stone.’ Unfortunately, Professor Piazzzi Smyth, in his work, ‘Our Inheritance in the Great Pyramid,’ sowed seed which has grown and ripened in the present pamphlet. For example, the statement that ‘the vertical height of the Pyramid multiplied by 10^9 gives the mean distance of the sun from the earth’ (p. 12), is a good illustration of the author’s style of reasoning. The same process, a little varied, might have produced the mystical number of ‘the beast’—viz., 666—or, in fact, anything the author pleased. That the Pyramid is a record of the astronomical and cosmical knowledge of the Egyptians, rather than a mere tomb, cannot, I think, be

doubted, and this knowledge we owe chiefly to Professor Piazzì Smyth ; any theory more than this is out of the lucubration of a mind probably partially educated, and certainly slightly warped, as is abundantly apparent in the ‘Octaves’ which compose half the bulk of ‘Philitis.’ To refute each statement categorically would be a work of supererogation—suffice it to say that nearly every conclusion of the author’s is based on assumed premises, which will not bear investigation.”

Before proceeding to a direct examination of this critique in the portion which simulates argument, I may be permitted to explain the difficulty which this writer experienced in attempting to review “Philitis” seriously, as arising from the object of the prose portion, which is to show that the architect of the Great Pyramid was divinely inspired in the plan of its work, and that the discovered truths of its construction are consonant with, and complementary to, the revelation of divine truth in the Bible. This object is quite sufficient to make it a stone of stumbling and a rock of offence to the sceptic, and to render a serious review of its argument impossible. The reason of this incapacity is, that against this unhappy class of unbelievers the terrible decree has been executed—“The eyes of their understanding” have been “darkened,” so that even “the light which is in them is darkness.” As well might the opinion of one born blind be relied on respecting colours, as the opinion of this writer regarding religious truth, which his mind is virtually and literally incapable of understanding. But as he evidently believes the contrary, it may be well to follow the line of his remarks in test, if it be only to show the length and depth of his comment, and the calibre of the mind that presumes to sit in judgment on, and reject the testimony of, the eternal truths of God.

A reason may be asked why a disability should extend to this writer's criticism on the scientific portion of the argument? That reason is not far to look for, as the scientific testimony of the Pyramid is but the base supporting its religious evidence, and must therefore be slurred when it cannot be disproved.

But why should religious truth be obnoxious to the sceptic? For one among many reasons—viz., that the Bible gives no place for, or countenance to, intellectual pride—that idol on whose shrine such men heap the labour of their wasted lives—hence its doctrines and teachings are naturally opposed by them with a truly demoniac rancour. The reviewer, finding the difficulty of being serious, attempts to be jocose, but the effort is not happy in result, he evidently being one of those who “depend on their memory for their wit, and rely on their imagination for their facts.” Thus, after a flourish of the late Professor de Morgan's name in the way of attenuated sarcasm, he becomes quite pathetic regarding the results following the publication of “Our Inheritance in the Great Pyramid,” and is seemingly much depressed by the “unfortunate” circumstance that the seed sown by that good labourer, Piazzzi Smyth, has “grown and ripened” in “Philitis.” Though deeply sensible of the unintended compliment conveyed in this admission, I feel I shall not be successful in mitigating the regret of this philosopher by assuring him that this little index pamphlet represents but one grain, as it were, of that seed which, sown broadcast over the earth, has grown and ripened into rich and extending harvests in every quarter of the globe—harvests, for the garnering of whose golden grain such cavillers as this critic are not privileged to thrust in their puny sickles. Let me now come to the illustration furnished by this reviewer of the “style of

reasoning" which he believes to be fallacious. The statement selected is, that "the vertical height of the Pyramid multiplied by the ninth power of ten, gives the mean distance of the sun from the earth." His comment on this demonstration is just such as might be expected from a critic such as the reviewer, who says—"The same process, a little varied, might have produced the mystical number of the beast (666), or, in fact, anything the author pleased." This being the single attempt at argument made by the writer, I shall pass his second doleful effort at wit—in the allusion to the Apocalyptic numerals—and treat his sophism in a "serious" manner. What does this writer mean by the terms "same process?" The phrase can have but one of two meanings, viz.—the general meaning of arithmetical multiplication, or the special meaning of the Pyramid height multiplied by 10^9 . If the former sense be applied to the author's words, they assert the barren platitude that $111 \times 6 = 666$, and if the latter value be attached to the terms, the observation becomes sheer nonsense, for a special multiplicand with a special multiplier can produce but one result, and cannot be "a little varied" without an entire alteration of the problem.

But the reviewer, when writing his critique, either did or did not know that the Pyramid height and 10^9 were the only factors that could be used in solving the problem of the sun's distance—the exact and inflexible rules imposed by the Pyramid's science not admitting of any "process" "a little varied" being experimented with by ingenious profanity in exposition of the truths exhibited in the design of its inspired architect.

In that design the before-named factors—viz., the Pyramid height and π angle, are alike fixed quantities, their relation being that for every nine units of vertical or sun-pointing rise in the former, there are ten units of inward and upward

incline of the latter to the point of equality in vertical height—a ratio which cannot be a “little altered,” no more than the Pyramid can be a little moved. If the reviewer knew this co-relation of the factors when writing his critique, I fear it would be difficult to defend it if it were arraigned on the charge of wilfully suppressing the truth; and if he did not know the “reason why” of the “process” when attempting to be more witty than wise, it may be fairly presumed (even though his ability and information be accepted at the given estimate) *that what he does not know would make a very valuable and most interesting volume*. Having therefore a due regard to the infirmity of the critic, and the gravity of the subject under consideration, it is well to state, for the serious reflection of such commentators, that the problem alluded to is not an affair of mere arithmetic, or the 10^9 multiplier of the Pyramid height simply a suggestion of Mr. Petrie’s or any other mundane mind, but is given by the shape of the Great Pyramid as it was built 4,000 years ago, remains so still, and cannot be altered.

Furthermore, such a feature was absolutely required in a building wherein the architect had fundamentally expressed the annual revolution of the earth round the sun in a typical manner and in a certain numerical scale, so that after that *monumentalized* expression of solar relation was discovered, the sun-distance was as naturally to be looked for as being monumentalized also, as is the second half of a chapter or book to be looked for as following its first half or chapter; and as in the best-written book a few words taken out of it and used by themselves, may have a very different meaning from that conveyed when in connexion with what went before or followed, or may be used by a designing critic to express something never intended by the original writer, so may

single truths in the grand concatenated design of the Pyramid, when detached from their connexion in the general plan of the architect, be warped or misused by unqualified or unscrupulous unbelievers. But the temerity of this reviewer is not limited even to such exhibition of wild comment as that alluded to, as will be seen in the audacious assertion that "the Pyramid is a record of the astronomical and cosmical knowledge of the *Egyptians*"—an assertion totally unsupported by even an attempt at proof, unverified by historical record, and altogether so opposed to truth that it may be truly classed as "the lucubration of a mind probably partially educated, and certainly slightly warped," if the reviewer will permit me to use the elegant impoliteness of his remark applied to the metrical portion of "Philitis" in the former edition. From the present pamphlet that portion has been principally excluded to make room for matter more important, as being more consonant to its subject. The "disquisition" has already had abundant and favourable "review" by skilled and qualified critics; and had I hitherto any misgiving as to its merits, the censure of this reviewer has completely removed it, and he will, I trust, bear with me in timidly assuring him that I shall treasure *his* remark as being the most valuable commendation which it has yet won.

And as the first few lines of his critique show a heroic capacity for ignoring the venerable laws of grammatical construction (such as only a censor of this class would be justified in exhibiting), so does its entirety convey the impression that even a writer possessing the profound abilities of our reviewer may have not only a great deal to learn, but also a great deal to forget, if he would aspire to the high position he assumes of being a qualified and unprejudiced censor.

In the closing paragraph of the review the critic assumes the oracular style, and is amusing, although not instructive.

Thus he assures the reader that "to refute each statement categorically would be a work of supererogation." And what is the reason alleged for this autocratic assertion? "Suffice it to say," he continues, "that nearly every conclusion of the author is based on assumed premises, which will not bear investigation." It is to be regretted that the reviewer did not select an additional instance of assumed premises, and unbend so far as to refute it after the manner of reasoning applied to the sun-distance, as it would afford an opportunity of showing that, as in that instance, the premises would not only bear investigation, but admit of its truth being demonstrated. The difficulty was probably foreseen by the critic, and disposed of it in the off-hand manner of his assertion, but the fact remains that the premises of Pyramid argument are not assumed in any single instance; they are data of line, angle, and capacity, and as such, by their coincidence with other commensurable truths, lead up to cosmic and ethical conclusions—clear and indubitable to the receptivity of any unprejudiced or unbiassed mind. Those readers who have *studied* the theory of the Great Pyramid may be inclined to think that even this slight notice of such objections as the foregoing is a waste of time, if not a want of prudence—that this class of thinkers are best let alone with their idols. To such, my apology is, that in my own case, even after I had visited the Pyramid, and when possessing but a superficial knowledge of its construction such as this writer has, I occupied the position he now holds as a doubter of its claim to a supernatural wisdom of design. But after I had seriously studied the exhaustive demonstration of Professor Smyth, I became a believer by necessity, as it is to be hoped the writer of the critique will be, when he will have overcome the difficulty of giving the question a serious review.

THE MYSTERY OF THE PYRAMIDS.

By RICHARD A. PROCTOR.

As the moth is fascinated by the flame, nor is warned by having its wings scorched, so it would seem is Mr. Proctor fascinated by the Pyramid subject, and returns in the June number of *Belgravia* to flutter round the attractive theme, heedless of the singeing which resulted from his *Fraser* article. Brilliant and rapid as are the thought-wings of the gifted writer, he had better beware of the Pyramid lest it lure him to his undoing; and a friend of its theory might well exclaim with Job, when reading R. A. Proctor's attack—"Oh! that mine enemy would write a book"—for in such would be found the most florid failure possible to prejudice, in an attempt to controvert the incontrovertible. The *Fraser* contribution may be considered as a pickaxe attempt to overturn the Pyramid, by implying that what he cynically termed "the religion of the Great Pyramid" was something differing from the religion of the Bible. The *Belgravia* article may be regarded as an attempt to build a pyramid of sand by the aid of a "Zadkiel" trowel and astrological mortar. The dissertation opens by a sonorous dash through an enumeration of the ancient and modern theories respecting the purpose for which the pyramids were built, intending to show the reader that the author is perfectly at home in his subject, and therefore rules authoritatively when dismissing as untenable all others but the tomb theory, which he considers to be a by no means satisfactory explanation of their use or purpose. Then follows a critical examination, in which the author says :—"It is hardly necessary to say perhaps that the history of the Great Pyramid is of paramount importance

in this inquiry. Whatever purpose pyramids were originally intended to subserve, must have been conceived by the builders of that pyramid. New ideas have been superadded by the builders of later pyramids, but it is unlikely that the purpose can have been entirely abandoned. Some original great purpose there was, which the rulers of ancient Egypt proposed to fulfil by building very massive pyramidal structures on a particular plan. It is by inquiring into the history of the first and most massive of these structures, and by examining its construction, that we shall have the best chance of finding out what that great purpose was."

Here it will be seen the author has put forward an assumption as an argument, and improperly applied to all the pyramids an assertion which is applicable to the Great Pyramid alone ; for, while it is strictly true that "a great purpose" was meant to be subserved by the primary pyramid, and that purpose exhibited "on a particular plan" conceived by its architect, it by no means follows that the latter pyramids—built in ignorant and imperfect imitation of it—had any but the one purpose, which it is positively known they were used for—viz., sepulture—a purpose which may have been also the sole idea of Cheops, but which was not the essential idea in the mind of the architect, as has been demonstrated exhaustively by modern translation of his plan.

But whatever the motive of Cheops may have been, and however attractive that subject may be to Mr. Proctor, as lying within the boundless realm of speculation, it would be alike useless and unprofitable to discuss the many suppositions advanced, the more especially as the design of the architect is the matter to be considered, and remains available for test and translation. The theory founded on that design by Mr. John Taylor, and the reasons advanced in its support

by him, Mr. Proctor declines to discuss on page 437, but relenting on page 438, the Pyramidists generally, including Taylor and Smyth, are disposed of in a summary manner, in so far as they claim "that the Pyramid was erected for some purpose connected with religion," the argument advanced against their theory being as follows:—"There are many very obvious difficulties surrounding this theory ; as, for example, (i.) the absurd waste of power in setting supernatural machinery at work 4,000 years ago with cumbrous devices to record its object, when the same machinery, much more simply employed now, would effect the alleged purpose far more thoroughly ; (ii.) the enormous amount of human misery and its attendant hatreds brought about by this alleged divine scheme ; and (iii.) the futility of an arrangement by which the pyramid was only to subserve its purpose when it had lost that perfection of shape on which its entire significance depended, according to the theory itself. But, apart from these, there is a difficulty, nowhere noticed by Smyth or his followers, which is fatal, I conceive, to this theory of the pyramid's purpose. The second pyramid, though slightly inferior to the first in size, and probably far inferior in quality of masonry, is still a structure of enormous dimensions, which must have required many years of labour from tens of thousands of workmen. Now, it seems impossible to explain why Chephren built this second pyramid, if we adopt Smyth's theory respecting the first pyramid. For either Chephren knew the purpose for which the Great Pyramid was built, or he did not know it. If he knew that purpose, and it was that indicated by Smyth, then he also knew that no second pyramid was wanted. On that hypothesis, all the labour bestowed on the second pyramid was wittingly and wilfully wasted. This, of course, is incredible. But, on the other

hand, if Chephren did not know what was the purpose for which the Great Pyramid was built, what reason could Chephren have had for building a pyramid at all? The only answer to this question seems to be that Chephren built the second pyramid in hopes of finding out why his brother had built the first, and this answer is simply absurd. It is clear enough that whatever purpose Cheops had in building the first pyramid, Chephren must have had a similar purpose in building the second; and we require a theory which shall at least explain why the first pyramid did not subserve for Chephren the purpose which it subserved, or was meant to subserve, for Cheops. The same reasoning may be extended to the third pyramid, to the fourth, and in fine to all the pyramids, forty or so in number, included under the general designation of the Pyramids of Ghizeh or Jeezeh."

There is a tone of locomotive-logic in this argument (i.), where a "*waste of power*" in "*setting supernatural machinery to work*" are the terms chosen by the critic—a thought and its expression as irreverent as they are irrelevant, when the power and wisdom of God are implied—a thoughtless presumption, which warrants the rebuke (with slight alteration) to those who would

"Take from His hand the balance and the rod,
Rejudge His wisdom, and be god of God."

The waste of power in supernatural machinery argument may be therefore best treated by being passed over as a perhaps unintentional, but not the less impious, aspersion on Divine power and wisdom.

Argument (ii.) is shallow as its predecessor is arrogant. "The enormous amount of human misery and its attendant hatreds brought about by this alleged divine scheme," writes Mr. Proctor, such "scheme" being the sealing up of the

Pyramid's testimony to the truth of Bible record until the fulness of the time of its revelation had come. Had the writer shown that human misery and its attendant hatreds were unknown amongst the nations which disbelieve the Bible and reject its religion, his arguments would have some depth; or had he shown that since the evidence of the Pyramid has been added in support of the Bible's claim to inspiration, "human misery and its attendant hatreds" had ceased, then would the florid proposition have had some force, but, as it stands, the only difficulty is in comprehending how a writer of Mr. Proctor's ability should have deliberately exhibited an argument so futile and fallacious.

But argument (iii.) has not even the seeming force of the preceding, as in its first proposition it takes for granted that the Great Pyramid "has lost that perfection of shape on which its entire significance depended," whereas the fact is that the perfect shape of the Pyramid has been recovered both in its external and interior features, as truly and minutely as if it had been measured at the time of its completion. Having dogmatised satisfactorily, Mr. Proctor is pleased to unbend from the gravity of the philosopher to the levity of the humourist, when, though still wearing the horrid mask of the dilemma with its horns, he rivals "Mark Twain" in the following argument:—Chephren either did or did not know, when building his pyramid, the purpose for which Cheops built the Great Pyramid. If he knew the purpose of the architect, then he knew that no other pyramid was wanted; but if he did not know, then the only solution of the question is, that "Chephren built the second pyramid in hopes of finding out why his brother had built the first." To culminate the joke, we are assured that the latter supposition is absurd, but there was scarcely a necessity for restricting

the term to the humorous proposition, which reminds us somewhat of the "*crocodile*" sophism of "Chrysippus," at which Lucian laughs in his "Vit. Aust."

Now, it might have saved Mr. Proctor the labour of his joke had he imagined the possibility of Cheops designing the Great Pyramid for his mausoleum, and Chephren building the second pyramid with the same motive, as regarding a sepulchre for himself, and so also all the other builders of the remaining pyramids, but that Cheops, Chephrenes, and their successors were all equally ignorant of the purpose expressed in the design of the architect Philitis, and consequently every one departed more and more from the expressional features of the original building, having nothing in common with it save a rude and imperfect resemblance in form, and the capacity of being used for sepulchral purposes. This view is supported by facts, as the latter pyramids have been found, as far as explored, to have merely a base course or subterranean mummy chamber, and to have been used for sepulchral purposes, while wanting the central chambers of the Great Pyramid, as well as the mathematical accuracy and expression of its design, and therefore definitely answer the question "why the first pyramid did not subserve for Chephren the purpose which it subserved, or was meant to subserve, for Cheops."

But this is not all, for the splendour of argument is totally eclipsed by magnificence of enumeration when Mr. Proctor, with a lavish disregard of fact, says:—"The same reasoning may be extended to the third pyramid, the fourth, and in fine to all the pyramids, *forty or so in number, included* under the designation of the Pyramids of *Ghizeh* or *Jeezeh*." The scrupulous anxiety to avoid a possibility of error in mistaking the pyramids meant, by giving the double orthography,

Ghizeh or Jeezeh, is very impressive, as indicating a severely critical effort on the part of the writer, but our confidence is shaken by the fact that the Pyramids of Ghizeh or Jeezeh are *only nine in number*, and we confess to Mr. Proctor being the first and only writer whom we have ever known to include, "under the general designation of the Pyramids of Ghizeh or Jeezeh," the thirty-eight (not forty or so) pyramids which are found stretching for some fifty geographical miles along the western bank of the Nile, and classified under the *separate designations* of those of Aboo Roash, Zowyat El Arrian, Reegah, Aboosir, Saccara, Mustabet El Faraoon, Dashoor, Lisht, Meydoom, Illahoon, Howara, and Biahmoo.

Now, as Mr. Proctor may return to this subject, and as his undoubted ability and felicitous style would adorn any theme, it is to be hoped that he may inform himself thoroughly in the future before either attacking a theory which has had the most critical test applied to it before acceptance, or propounding a speculation which, while pleasing the imagination, is more romantic than real; for we cannot help saying that when a writer is so grossly erroneous in the primary matter of enumeration and classification, he can scarcely be accepted as an authority on a subject which has evidently had but a superficial attention at his hands.

Through eleven pages following the quotation given above, Mr. Proctor sets up, and bowls down, the astronomical observatory theory, the sun worship temple theory, the treasure stronghold theory, &c., and entering into, as it were, the mind of Cheops, goes so far as to recount what was "most probably the reply" of that king to the astronomers—all very graphic, and strongly in proof of the writer's power and reach of imagination, but nothing more; and then we are led up to an acceptance of the theory that Cheops, Chephren,

and all the other pyramid builders were believers in alchemy and astrology, and devoted their attention to casting horoscopes, trying to discover the philosopher's stone and the elixir of life in the dark sepulchral chambers of the pyramids. This wild conjecture is finally proved thus :—"But, after all," says Mr. Proctor, "it must be admitted that the strongest evidence in favour of the astrological (and alchemical) theory of the pyramids is to be found in the circumstance that all other theories seem untenable."

We can only say that if this be the strongest evidence the astrological and alchemical theory admits of, those who accept it must be easily satisfied both as to logic and theory, and should at once embrace and hold fast Mr. Proctor's remarkable solution of "The Mystery of the Pyramids."

THE PROBLEM OF THE GREAT PYRAMID.

By RICHARD A. PROCTOR.

IN the *Contemporary Review* of Sept., 1879, Mr. Proctor has again been lured by the Great Pyramid to the composition of perhaps the most dreary article that has ever flowed from his versatile pen. Beginning in *Frazer's Magazine* with a disquisition on "The Religion of the Great Pyramid," he displayed in that paper a gross absence of knowledge concerning many of the most marked features of the venerable structure, and gravely reasoned from imaginary data with the inevitable result of reaching a wildly wrong conclusion. Next appeared a contribution to *Belgravia*, on "The Mystery of the Pyramids," in which he showed but little advance in correct acquaintance with his subject (not knowing even the number of the pyramids composing the Ghiza group, which he actually stated to be "*forty or so*," whereas the Ghizeh group are only *nine* in number—viz., three large and six small), and any progress which he did make tended in a persistently wrong direction. The latest addition to the literature of the subject from Mr. Proctor's pen is the article in the *Contemporary Review*, noted above, which has already had an incisive comment from Professor Piazzzi Smyth in the *Banner of Israel* of October the 8th (subjoined, p. 121), from which it will be seen that Mr. Proctor is convicted of most careless reading, as well as of unscrupulously false assertion in his treatise.

In the article under consideration Mr. Proctor has made such advance in the study of his subject as to confess a

conviction that the architect of the Great Pyramid was an advanced astronomer for his time—2170 B.C.—not, of course, the equal of Mr. Proctor, A.D. 1879, but still a good worker, whose positional choice of site was in error to the extent of one mile, 1,512 yards, south of present latitude 30° N.—which error, Mr. Proctor explains, arose from an unacquaintance with the law of refraction. The argument on the point is founded on the purely hypothetical and speculative assumption of Mr. Proctor—that Philitis should have raised the monument on the precise present parallel of 30° N., and not on $29^{\circ} 58' 51''$, the position rightly chosen 2170 B.C.

Let us now see what Professor Smyth has to say on this subject. Turning to p. 70 *et seq.* of “Our Inheritance in the Great Pyramid,” we read as follows:—“But indication will be afforded presently respecting another test of nearly the same thing (*viz.*, the accordance of the Pyramid’s angle with the cardinal points of astronomy), not by angle, but by distance on the surface; and, further, that the architect did propose to place the Great Pyramid in the astronomical latitude of 30° N., whether that exact quantity was to be practical or theoretical; while my own astronomical observations in 1865 have proved, from the results of several nights’ work, that it stands so near to 30° as the latitude parallel $29^{\circ} 58' 51''$. A sensible defalcation this, from 30° , it is true, but not all of it necessarily error; for if the original designer had wished that men should see with their bodily rather than their mental eyes the pole of the sky from the foot of the Great Pyramid at an altitude before them of 30° , he would have had to take account of the refraction of the atmosphere, and that would have necessitated the building standing not in 30° , but in $29^{\circ} 58' 22''$. Whence we are entitled to say that the latitude of the Great Pyramid is actually by observation

between the two very limits assignable, but not to be discriminated, by theory as it is at present. The precise middle point, however, between the two theoretical latitudes being $29^{\circ} 59' 11''$, and the observed place being $29^{\circ} 58' 51''$, there is a difference of twenty seconds which may have to be accounted for; and Dr. Hooke's question upon it would certainly be—Can the earth's axis have shifted so much in 4,000 years, with regard to the crust, that the latitudes of places have altered that quantity in that length of time—viz., $20''$ of space in 4,000 years?"

Dr. Hooke, it may be mentioned, was Secretary of the Royal Society of London, and in a discourse on Earthquakes, about the year 1677, remarked—"Whether the axis of the earth's rotation hath and doth continually, by a slow progression, vary its position with respect to the parts of the earth, and, if so, how much and which way, which must vary both the meridian lines of places and also their particular latitudes?" This theory of Dr. Hooke's, although it appears startling at a first glance, is necessary to an explanation of the fossil records of the earth, which show that such change has positively taken place in the past of our planet.*

Having filled no less than thirteen pages of the *Contemporary* with a wearisome, verbose, and reiterated *à priori* hypothesis and dissertation of, and on, the possible use of the shadows and stellar methods by the architect, Mr. Proctor devotes the remaining thirteen pages of his contribution to a

* While the microscopically accurate observations of latitude at the Royal Observatory, Greenwich, during the 100 years or so that that establishment has been in existence, tend to confirm the Great Pyramid result, in direction certainly, and in quantity probably, and yet Mr. R. A. P. has entirely overlooked that great law and fact of nature, with which anyone ought to be *most* familiar, if he would pronounce on the affairs of the surface of this earth 4,000 years ago. See Louis Figuier's "World Before the Deluge," pp. 378 *et seq.*

theory principally relating to the use of the grand gallery. Mr. Proctor is now ready to grant that the entrance and ascending passages, as well as the grand gallery, are *not* in the meridian plane of the Pyramid's base line, as he *proved they should* be, and *asserted they were*, in his *Frazer* article; but, moreover, now shows that they should be exactly where they are, and admits that the meridional plane would not have suited the work of Philitis or the former hypothesis of Mr. Proctor.

Denuding his theory of its laboured word-drapery, Mr. Proctor's present idea of the grand gallery is that it was built for the purpose of observing the southern heavens, as the entrance passage had been for observing the northern sky, and that the fiftieth course of the Pyramid's masonry was an immense platform on which the astronomers stood to hear and record the reports of the observers stationed at various parts of the gallery; that the Pyramid remained in this state until the death of Cheops, whose horoscope the astronomers were employed in casting, and that after the demise of the king the Pyramid was carried up to a point, cased and closed up as his tomb.

To one acquainted with the recklessness of theory which Mr. Proctor is at times capable of, this proposition is not surprising; but to anyone having even a limited knowledge of the structural features of the Pyramid, the history of the course and mode of its erection in Herodotus, and not acquainted with Mr. Proctor's capabilities, the audacity of the theory is simply wonderful. The fact is that on this same fiftieth course was built the central chamber of the monument—the wonderful “king's chamber,” as it is called—on which the resources of skill and mathematical knowledge were exhausted, in whose measures are found the key and coincidences of all the expressional measures of the whole

building, and whose roof-construction is evidence of its being built to bear up the enormous superincumbent weight of the Pyramid. Up to and into that supreme chamber the grand gallery led, without any provision for stellar observation, through the 200 feet of solid stone masonry which lies between it and the southern face of the structure; but perhaps we shall find Mr. Proctor in a future theory getting over the difficulty, in his perfectly original manner, by claiming that the ventilating channels of the chamber, when supplied with a water mirror at their base angle, served the purposes of stellar observation and the difficulty of his characteristic theory.

There is a prevailing feature in Mr. Proctor's article which, to speak of charitably, is not logical: he professes to write of and on "*The Great Pyramid*," and yet he argues from and uses interchangeably the other pyramids in Egypt, which are known to be but imperfect and profane imitations as to shape of the perfect and primeval monument erected by Philitis, not one of which has an ascending passage, or other than a subterranean burial chamber.

He has likewise chosen bad company in adopting Proclus as an authority, an apostate from Christianity, who wrote bitterly against the faith, but who possibly is not known by Mr. Proctor as being a writer who, while possessing information on astrology, and an acquaintance with the works of Plato, was totally ignorant of the plan, structure, or meaning of the Great Pyramid.

Let Mr. Proctor put aside such authors as the Lycian disciple of Syrianus, leave Proclus Diadocus to deserved oblivion, and take the trouble to really master the facts capable of bearing test in the structure and expressional measures of the Great Pyramid, and there is hope that (when he has shaken himself free from the trammels of prejudice

and the seduction of verbose speculation, avoiding the temptation of display in hypothetical theory, and has conquered the weakness of clever flippancy when treating a serious subject) his robust advocacy of the claims of the Great Pyramid as an exponent of scientific and religious truth shall value and adorn the pages of a future number of some leading serial.

THE PROBLEM OF THE GREAT PYRAMID.

PIAZZI SMYTH'S REPLY TO R. A. PROCTOR.

THE above is the title of a paper in the September number of the *Contemporary Review*, by that able, stirring, insatiable writer, Mr. R. A. Proctor, and is replete with his characteristic defects as well as excellences. Nor is the discourse very new, for the main argument throughout appears to be the same as that set forth by him to a Manchester audience several months ago, and not very much to their edification.

But that *may* have been their fault; so by all means let us inquire what the said main argument, as now furbished up for the *Contemporary Review*, really, purely, and simply is.

It is an endeavour, by Mr. R. A. P., to account by his own new suppositions for some of the grandest historic facts about the old, old Great Pyramid; much in the same manner that certain rationalistic writers of our day do so often struggle to explain all the phenomena of God's wondrous creation, Jews and Israelites too, by nothing but natural and material progressive development on laws of their own finding out, or imagining, alone. Wherefore no Scripture history (and that is the only available contemporary history) of those early times wherein the Great Pyramid was built—no Job xxxviii. 4, 5, 6, 7; no Isaiah xix. 19, with its exquisite singling out of the ancient monument for a future purpose of the God of Israel—no allusion to Divine inspiration of any kind or degree to the deputed architect from Palestine, and who returned there again, is allowed to enter the ultra-modern disquisition for explaining ancient things which is now figuring in the present month's essay of a very pushing London magazine.

But as, in a subject of such undeniably primeval age as the Great Pyramid, something rather, or somewhat, old must be got hold of, to give just a flavour of antiquity to the dreadful rawness of this very year's mental theories, hastily run together by Mr. R. A. Proctor, he puts up horses, *proh pudor*, with *Proclus*! Proclus, a man consigned long ago by both the Churches and Academies to oblivion; and why? Ascertain who and what was Proclus. A pervert from Christianity and a follower of Julian the Apostate, dressing up again the old heathen idolatry in a new robe of mysticism and *diablerie* to suit the corrupt society of the Eastern Roman Empire of Byzantium, somewhere about A.D. 450. A man whose science was astrology; from whom we know nothing really and positively about any of the Pyramids of Egypt, and least of all about the exactitudes of the great one; a man indeed whose writings are verbal chiefly, are largely borrowed from others, but twisted and allegorised in the process. The very father, too, was he of modern rationalism, endeavouring to prove that the material world is eternal of, and by, itself alone; and all this as part of his malignant book, entitled, "Eighteen Arguments against the Christians"!!! But he wrote even that with so little point or effect that Gibbon is constrained to say of him, "His life exhibits a deplorable picture of the second childhood of human reason."

An astrologer then, not an astronomer, this Proclus, without any known facts to go upon, claimed King Cheops of the ancient Great Pyramid as being astrological, just like himself, in so very different an age of the world and state of human thought; and with this more than suspicious help, or worse than blind leading the blind, away goes Mr. Richard A. Proctor, brandishing, in the year 1879, A.D., the merely

medieval name of the wretched Proclus before astonished moderns; and undertaking, on his lines, to prove that the very ancient King Cheops' object in building the grand monument of his reign and of all the early world, must have been astrological speculations about his own paltry life; but begun on a basis of practical astronomy.

The process, on paper, is really very cleverly conducted, albeit, at least to the general reader, rather wearisome. But then, to see how Mr. Proctor assumes so positively that his own peculiar ideas, of an observing astronomy he has never worked out, must have infallibly controlled the gigantic works in stone of the primeval Pyramid builders, and caused them, before settling down to selfish and Procleian astrological applications, to be guided by, and for, astronomy alone. This, too, is all the more noteworthy by us, because it is so peculiarly to the denial of another branch of the rationalistic school—viz., the Egyptologists. For they (see the article "Egypt" in the presently publishing edition of the "Encyclopædia Britannica") repudiate any astronomy whatever in the Great Pyramid, and declare openly, roundly, insultingly, that no one who knows anything at all about the ancient Egyptians believes that the Great Pyramid was erected for anything else than a tomb.

Whether it is justifiable or not for any writer on the extremest of human antiquities to put Scripture history so totally on one side, and try his own rationalistic ideas for explaining the early mystery of man's present position on earth, it is plain that some men will, up to the present day, still persist in doing so. And of the two classes of such modern rationalists just mentioned, Mr. Proctor is, in our humble estimation, by far the less objectionable; for he does make use of, and endeavours to satisfy some of the positive

measures recently taken by modern scientific means, of the antique structure, while the Egyptologists ignore them all. We should therefore have some hopes of Mr. Proctor eventually, were it not for his having just now wofully truckled down after all to the astronomy-despising Egyptologists, and that in the clenching matter of dates. But he cannot apparently go so grievously wrong there without exhibiting some lamentably bad feeling towards "the sacred and scientific theory" described in "Our Inheritance in the Great Pyramid."

At his page 110, therefore, after some allusions to the "absurdities of Taylor and Smyth," we read the following flippant account of the chronology derived in that book from the ancient monument; and shown therein, again and again, to come, on all disputed points, just about half-way between the dates of the Septuagint and those of the Hebrew version of the Bible—they being the two versions which have almost equal authority and an equal number of supporters throughout Christendom. Yet thus writes the inventive Mr. Proctor:—

"It is true not one of these intervals (of the Pyramid-derived chronology) accords with the dates given by those who are considered the best authorities in Biblical matters, but so much the worse for the dates."

Wherefore what does Mr. Proctor, in all consistency, then do? Does he keep to one of the rival versions of the now lost original Bible alone, and ignore the other? or whom does he go to as "the best authorities in Biblical matters?"

He goes straight to the Egyptologists, the very men who antagonise Biblical history, and whose early dates lie totally outside and beyond all those of both the acknowledged versions, among all Christians, of the Holy Scriptures.

Hence we find him now advocating an enormous date like B.C. 3,300, as being that of the foundation of the Great Pyramid. The Egyptologists simply say so, and apparently carry overwhelming weight with him; he not regarding that that date of theirs implies a time when the earth was under the waters of the Noachian deluge, according to the dates of the *Septuagint* translation of the Bible, or was still more impossibly about a thousand years before that event, according to the dates of the Hebrew version of the Holy Scriptures. Wherefore, totally opposing all that men have now to trust to for the Divine Word, Mr. R. A. Proctor claims the presently existing Pyramids in Egypt as buildings erected either under the waters or long before the surging of the waters of the Noachian flood; and calmly assumes, notwithstanding all which the Bible teaches of the *few* then saved in the ark, that at that very time the Pyramid builders possessed the command "of enormous wealth, practically exhaustless stores of material, and the means of compelling many thousands of men to labour for them;" or, in plain fact, that there was no Deluge at all.

It is not, therefore, only the theory of the Great Pyramid, as contained in the book "Our Inheritance," which is being fought against by Mr. Proctor on this score of date of the Deluge, and date of architectural remains still visible on the earth, it is all the Christian Churches, Roman Catholic and Protestant, Presbyterian also and Episcopalian, and wherever any two or three worshippers may meet together to read the Scriptures and believe them to be the Word of God.

Yet, however revolting so wide a contradiction to inspired history as Mr. Proctor's Egyptologically-derived assertion of 3300 B.C. for the date of the Great Pyramid's building may be to many, we, of the *Banner*, must here, and in this place

at all events, stay to inquire what are the astronomical grounds supposed to justify the assertion in Mr. Proctor's mind; for as to Egyptology—founded, as it is, on idolatry of the most degrading kind, and no scientific records capable of fixing an absolute date—we can have nothing to do with that.

The alleged astronomical grounds then are:—That at the first of two well-known and often-discussed occasions, when the Great Pyramid pole-star, Alpha Draconis, was visible at the “entrance passage” angle, a very bright star, Alpha Centauri, was observable southward in the direction of the “grand gallery” of the Great Pyramid.

But that grand gallery is not an observing avenue, and points far too low down for the time-fixing star required. There are, moreover, near 200 feet of solid masonry between its southernmost end and the southern skies. It can only, therefore, act as a symbolical astronomical apartment, and there is no vestige of memorial that it was ever anything else; and while its notable “seven overlappings” have been long held to typify the seven stars, or the Pleiades, the vertical meridian plane of those stars when southing at midnight, at the more Scriptural date for any post-diluvian architecture of 2170 B.C., coincided with the similar plane of the Grand Gallery, though the stars themselves were at a much higher altitude therein. That position for them, too, is most peculiarly emphasized astronomically and for that one date alone, out of 25,000 years, by the Equinoctial Colure having then coincided therewith, and with the Polar star on the Meridian. The whole formed a most appropriate time-system for reckoning human history from, and is actually borne further historical testimony to by Pleiades-year traditions still forming the chronological heirlooms of most of the unchanged early races of mankind, as extracted out of aboriginal records with

so much care and success by Mr. R. G. Haliburton; while, on the other hand, it is hardly necessary to remark that there are no similarly widespread human-history confirmations touching either the star of, or the antiquity of the name, or the existence of that hybrid animal, the *Centaur*.

The scientific absolute date for the Pleiades group of stars having been in the remarkable position and combination above described, was computed with much skill in 1871, by Dr. Brunnnow, then Astronomer Royal for Ireland, as being, not 2170, as above, but 2248 B.C. Mr. Proctor, after similar calculations—wherein we are most happy to bear our testimony that he is extremely skilful and well versed—says that “2140 B.C., or thereabouts,” is closer to the truth. Perhaps it is, and he may have involuntarily done hereby good service to the Pyramid cause; showing that, after all, the original 2170 is not far from the mark; and that the best modern science cannot be certain of its final figures when computing back for so great an interval as 4,000 years. But in his haste, Mr. Proctor mistakenly attributes the former calculation to Dr. Ball, the present Astronomer Royal for Ireland; and somewhat similarly, at his page 112, he puts the Swede of Upsala, Mr. Wackerbath, for the late Sir Henry James, R.E., as the inventor of a certain comical system of balance ropes, trucks, wheels, and weights, for going up and down the inclined passages of the Great Pyramid—in idea.

Far more seriously, however, than that mere mistake, Mr. R. A. P., at his page 110, and again at page 113, ascribes to the author of “Our Inheritance in the Great Pyramid” the enunciation that “the end of the world is to take place in 1881;” whereas that person has not only not said that thing, but *has* said, printed, and published, and is still printing and publishing, the very opposite; and we should be glad to have

it proved that the duplicated erroneous statement of Mr. R. A. P.'s is only a blunder.

But his downright naming again (on his page 105) of what he *will* call, notwithstanding the most energetic denials of the principal persons concerned, "*the Pyramid religion*, established by Taylor, Smyth, and their followers," throws the most regrettable doubts on the matter; leaving him thus an only too fit companion for his favourite, anti-Christian, and Pyramid perverting author of the dark ages, Proclus!

PIAZZI SMYTH.

STANZAS

RETAINED FROM THIRD EDITION.

182

Siriad! the land of mysteries sublime!
 How Sihor's valley and its banks abound
 With proofs that reach back to the youth of time
 Of art, skill, science, wisdom, high, profound,
 Unmatched in any age, or race, or clime.
 Its temples, tombs, and pyramids astound—
 From Thebaid's solemn grandeur to the site
 Where Jeezeh's structures guard historic night.

183

In Lybian desert where its eastern line
 Bounds the Nile valley, we successive find
 The latter pyramids—a group of nine;
 Next Arrian-Reeghah, with two slopes combined—
 Then group of Abooseir more southward shine;
 Saccara's group and Dashoor's—one designed
 With double slope, and one of brick composed,
 But ruined now, with tombs around disposed.

184

Next Lisht, Illahoon, and Howara stand,
 While those of Biamoo complete the list—
 Some thirty-five in all—that seem as planned
 On the initial type; but those of Lisht
 And one of Dashoor seem now heaps of sand,
 While Aboo Roash does but of base consist;
 El Farrahoon's design we find the same,
 And flat-topped Meydoom has no better claim.

Of all this number *one* alone contains
 The special features which shall be rehearsed;
 In angles, measures, plan, *it* now remains
 The proof that its wise architect was versed
 In highest truths of science, and sustains
 Its claims o'er all by whom they were aspersed—
 'Midst monuments of man it stands alone,
 The oldest, largest, highest, earth has known.

How, in its presence, modern pride is bowed!
 Its hoary wisdom whispering from the dead—
 Sublime, mysterious, awful! With the shroud
 Of forty centuries wrapped around its head
 We catch its muffled tones, now low, now loud,
 And hear with wonder nigh akin to dread
 The cosmic truths now by its stones revealed,
 Which for four thousand years have lain concealed.

By its vast hugeness mind and eye are dazed
 And into silence awed. We stare and stand,
 Striving in vain to grasp *how* it was raised—
 To comprehend the skill by which 'twas planned,
 Pigmies in mind and stature, stunned, amazed,
 We gaze and feel before that structure grand—
 The mightiest altar that has ever been,
 Which cannot be imagined until seen.

Thus turn we from all others to where rise,
 On Jeezeh's Hill, this wondrous work of man,
 This builded mountain towering to the skies
 And "the Great Pyramid" in outline scan;
 Some thirteen English acres base supplies,
 Its height to eighty and one fathoms ran;
 While, as to substance—measurement has shown
 That it contains five million tons of stone.

One hundred thousand men for twenty years
 Toiled at this Pyramid ere it was crowned.
 In twice an hundred and nine mighty tiers
 It rose, and then from apex to the ground
 Was cased in limestone, which for thousand years
 Kahira has her building quarry found.
 Cephrenes' pile a portion still retains—
 Of that of Cheops not a slab remains.

Gazing, rapt, awed, upon that mighty pile,
 The mind is filled with wonder, and we ask
 Is it a tomb or teacher? Whence its style?
 What men, what age conceived, achieved the task?
 Wonder of wonders in this land of Nile,
 Of what great thought is this the type and mask?
 Here let us reverently pause, and seek
 The hidden wisdom which its structures speak.

Its chambers, passages, mysterious coffer;
 Its layers, angles, measurements, and stone—
 All, each to unsealed eyes of men now offer
 Solutions (for four thousand years unknown)
 Of truths which stand against the doubting scoffer;
 But clearer from their test, as fully shown
 By scientific labours, faith and teaching,
 Which Smyth "translates" as pyramidic preaching.

Wilkinson, Lepsius, Jomard, and Cecile;
 Le Pere, Coutelle, with Perring, Lane, and Vyse;
 Greaves, Osburn, Bunsen, must, we deeply feel,
 Have honour paid their labours. Though the prize
 Fell to the lot of Taylor to reveal,
 The theory which now the earth and skies
 Attest as truth. Since whom we homage pay
 To Smyth and Petrie, Goodsir, Mitchell, Day.

Leseur, Renan, Bunsen, each believed
 'Twas built four, six, eight thousand years ago—
 Zadkiel, too, the same result achieved
 By astrologic formulas. We know
 Those were men by a *theory* deceived
 Which had no science-spring from whence to flow;
 And as is ever—their *sage proofs* on *paper*
 Were tinder made by touch of science-taper.

Heredotus *historically* shows
 What Herschel by *astronomy* makes clear;
 And *hieroglyphic* search their plan o'erthrows,
 As Osburn proves. Its age now to a year
 From Smyth's exhaustive demonstration flows,
 Unreached by Simpson's anesthetic sneer;
 While Day and Petrie swell the ranks of those
 Who nobly worked its meaning to disclose.

Piazzi Smyth, a faith and zeal nerved man,
 Took up the clue which Taylor dimly saw,
 And to the crucial test of Taylor's plan
 Gave money, time, and labour—left no flaw
 In the exhaustive proof, whose labours ran
 Through months of trial which weak minds would awe—
 Then, boldly conscious of truth's deathless power,
 Gave to our age its grandest, gravest dower.

All honour to that brave, fond woman's heart
 Which nerved the wife the husband's toils to share—
 Which Love constrained from home and friends to part,
 And Ocean's wrath, and Desert's gloom to dare—
 Help meet in work of science, truth, and art,
 Most worthy Honour's brightest wreath to wear;
 For gentle hearts, imbued with faith sublime,
 Are rare, as precious, in our sensuous time.

Five times five centuries ere the Christian age,
 Occurred the mighty Mizraite migration
 From Shinar's plain, led by a monarch sage—
 A Hiksos grave, who, moved by inspiration,
 Did here, on central point of earth, engage
 To build in stone that wondrous revelation
 Which, in "Time's fulness," has at last been read
 By zealous heart and scientific head.

Of size supremely vast, of shape unique,
 The oldest structure ever built of stone;
 In vain through range of Nature's forms we seek
 For model from which might be simply shown
 The builder drew his thought—not Fancy's freak
 Nor accidental stumbling made it known;
 The mind that with the mighty thought was fired
 Was from above with perfect plan inspired.

Thus duly facing north, south, east, and west,
 On best meridian point of earth it stands;
 Its height to square of base, will bear the test
 Of radius to its circle—here expands
 Our wonder, finding clearly thus expressed
 A ratio which undoubting Faith commands,
 In the belief that he who thus expressed it
 Was heaven-guided; mortal brain ne'er guessed it.

A cubit measure has been used, we find,
 As the initial standard in construction—
 "A square of five in inches"—and defined
 As "sacred cubit;" showing, by deduction,
 A twenty-millionth part of length assigned
 To polar axis, in such parts reduction;
 While Earth's sidereal year, in days we trace,
 Each day a cubit, in the side of base,

201

And further still, though each side gives a year
 In terms of cubit, there's a fraction plus;
 Hence the four sides, by demonstration clear,
 Show one day surplus in their cycle; thus
 Proving how wisely provident the seer
 Who, in his plan, did "leap-year" thus discuss—
 A marvellous exactness, strange, surprising,
 Beyond empiric chanceful theorizing.

202

No! reason shows, as an inspired design,
 Our year of days thus fractionally given;
 And when we reverently stretch our line
 On base diagonals, the mind is driven
 To swerveless faith; for here the lengths combine
 To give the sum for which so long had striven
 The great Hipparchus. Here has inch expression
 The equinoctial period of precession.

203

The entrance-passage in its angle shows
 The year, the day, of the wise builder's plan,
 Which Herschel first observed. Our wonder grows;
 When, in its angle's incidence we scan,
 That when Pleiades and then Pole-star (¹) rose,
 And o'er meridian plane their courses ran,
 The extended line of passage angle vision
 Fixes their culminations with precision.

204

In the ascending passage, called "The Grand,"
 We find its *seven* lappings, which define
 A *week* of *days* as by the builder planned,
 With other readings as we may incline;
 And then, when in the central room we stand,
Its floor, roof, sides, are teeming with design—
 The mean of earth's weight, temperature, and density
 All here expressed with accurate intensity.

Here stands the *coffer* in this cryptic room—

The one thing found in central heart of stone;
Three thousand years, in silence and in gloom,

It held its secret, known to him alone
Who sealed it up as if till day of doom;

But now revealed, its hidden meanings shown,
As for all nations—the *true standard measure*—
Of pyramidal truth the chiefest treasure.

When “Al Mamoon,” the Arab Caliph moved

By fable dreamer’s fabulistic teaching,
Worked at the northern face until he grooved

An entry through the solid mass, till reaching
A passage—which the ancient entrance proved—

To central chamber, without further breaching,
This *empty* lidless coffer—not a tomb—

Was all he found in Cheops’ royal room.

The number *ten*, to its *ninth power* raised,

And multiplied by pyramidal height,
Gives a result at which we stand amazed—

“*Our earth’s true distance from the source of light!*”
He who would cry “Mere chance!” is simply crazed,

And should a pitying smile alone excite;
That truth to general man was then unknown—
And hence Philitis, inspiration shown.

I’ve merely *hinted* at this theme, in hope

To win the reader’s interest in its truth—
A theme most worthy of the widest scope,

Of sage’s wisdom, and the zeal of youth.

Compared with subjects o’er which thinkers mope,

It is—if I may use Lord Hamlet’s trope—

“Hyperion to a Satyr.” In man’s history

It stands the greatest fact, the grandest mystery.

But as that hoary pile doth still devour
 Its shadow daily, so it seems to hide
 Its secret truths. Four thousand years its power
 Appeared with magic mystery allied,
 Until at length came the appointed hour
 When scientific search, so long defied,
 Expelled the Genii of the powers of night,
 And gave its prisoned secrets to the light.

Honour to Smyth! and all that noble band
 Of scientific men, who gave their mind
 To rescue from the deserts' drifting sand
 The greatest truth to modern times assigned—
 A revelation grandest 'mid the grand
 Of all that science gave to human kind;
 An honour to their nation, age, and race,
 Who have achieved what time can ne'er efface.

¹ The true Pole Star of 2170 B.C., α Draconis, it being the largest star anywhere near or about the Pole, but was actually $3^{\circ} 40'$ therefrom. This distance would have vitiated its use for accurate purposes, had not the Pyramid architect struck out a method of using it which eliminated that vitiating quantity. He used it when it was crossing, or *on* the meridian below the Pole, and the Pleiades (near the Equator) were crossing it above the Pole, and then a plumb-line dropped from above would pass equally through both the polar point and the polar star as accurately as if said polar star were precisely in the polar point of the sky. Men of the Pyramid day (naturally speaking) knew nothing of the *why* they were only to use the then polar star at one particular instant of the night; for we read, in the beginning of astronomy of Schedo, that 1600 years after the Pyramid's day, a Greek made himself famous by finding out that the Pole Star of his day was not veritably in the polar point!!! That star, then one in Ursa Minor, but it was more than twice as far away from the Pole than was α Draconis in the Pyramid's day; so what a simple discovery for a first of progressive development educationists to make, and they went no further than that for a long time. But at the much earlier date of the Great Pyramid's erection its architect bound up the correct use of the Pole Star for meridian alignment with the simultaneous use of it in the meridian and *below the Pole*, with η Tauri, in the chief star of the Pleiades, also on the meridian and *above the Pole*, to enable the date of the building to be correctly computed from the precession of the equinoxes—a something among the phenomena of the stars which all mankind were then, and long after, most sublimely ignorant of, from any finding out of their own learned men.

Price Three Shillings and Sixpence.

THE MODERN ELOCUTIONIST,

DEDICATED BY SPECIAL PERMISSION TO

Her Grace the Duchess of Marlborough.

COMPILED AND EDITED

BY

JOHN A. JENNINGS,

TRINITY COLLEGE, DUBLIN.

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HAMILTON, ADAMS, & CO.

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&c., &c.

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“ Head Master, Wesley College, Dublin.”

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FROM THE

OPINIONS OF THE PRESS.

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