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A table of contents for *Bibliotheca Sacra* can be found here:

https://biblicalstudies.org.uk/articles_bib-sacra_01.php

ARTICLE VII.

THE EGYPTIAN YEAR.¹

By Joseph P. Thompson, D. D., New York.

It is about thirty years since Champollion *le Jeune* made public his discovery of the notation of the ancient Egyptian calendar. The most ancient form of the Egyptian year seems to have been a year of twelve lunar months. "The hieroglyphic signifying 'month,' was represented by the crescent of the moon."² The first change made in the year, was the substitution of solar for lunar months, making twelve months of thirty days each, and a year of three hundred and sixty days. To correct the variation of the seasons consequent upon such a division, five Epagomenæ, Epact, or Intercalary days were added after the twelfth month. This, however, was still a "vague year." To compensate for the retrocession of this, the *Sothic* year was invented; though at what period, is uncertain; which, dating from the heliacal rising of the Dog-star, which preceded the annual overflow of the Nile, made a year of three hundred and sixty-five and a quarter days. The Sothic period, on a great scale, answered the same purpose with our intercalation of a day in leap-year. A Sothic cycle of 1460 sidereal years was equal to 1461 vague or solar years; when the seasons, having receded through the whole round of the solar year, came again to their original point of departure, coincident with the rising of Sirius.

This solar year, of twelve equal months — leaving out of

¹ *Die Chronologie der Ägypter bearbeitet von RICHARD LEPSIUS. Einleitung und Erster Theil, Kritik der Quellen.* Berlin. 1849.

Nouvelles Recherches sur la division de l'Année des Anciens Égyptiens. Suivies d'un Mémoire sur des Observations Planétaires consignées dans quatre Tablettes Égyptiennes en Écriture Démotique, par HENRI BRUGSCH. Berlin and Paris. 1856.

² Wilkinson, 4: 13.

view the five Epagomenæ — was subdivided into a tropical year of three seasons, based upon natural phenomena. These seasons were of equal duration, each comprising four months of the solar year. This was the discovery of Champollion, first announced in his letters, and afterwards elaborated in his *Grammaire Égyptienne*, his *Grammaire Hiéroglyphique*, his *Mémoire sur les Signes*, and other works edited from his manuscripts, after his early and lamented death.¹ The result of this discovery is thus described by his elder brother, M. Champollion-Figeac.

The twelve names of the months, in the Egyptian calendar, are divided into three series, each of which is characterized by a particular sign, surmounted in all by an inverted lunar crescent; beneath which are one, two, three, or four marks, to indicate the number of the month in that season. These three series, representing the twelve months, show that the Egyptian year was divided into only three seasons. The first sign signifies the season of *Vegetation*; the second, that of *Harvest* (*récolte*); the third, the season of *Inundation*. The crescent over the first sign, with one stroke beneath it  denotes the first month of the season of vegetation (whose special sign was a Garden); a crescent with four  strokes above the same sign, denotes the fourth month of the same season; i. e. the fourth month of the Garden Season, the season of growth. And in like manner for the three seasons and the twelve months. The year began with the season of the Inundation; the rising of the Nile being the great phenomenon of nature in Egyptian history.²

This division of the year by Champollion has been followed, with slight variations in terminology, by all leading Egyptologists since his day. It has been accepted as a settled fact, and has formed an important *datum* in Egyptian chronology.

Wilkinson styles the three periods, the *Season of the Wa-*

¹ Published by *Didot Frères*, of Paris. Most of these are in the Astor Library.

² *Égypte Ancienne*, par M. Champollion-Figeac. Paris, Didot. p. 235.

ter Plants, the *Season of Ploughing*, the *Season of the Waters*. Mr. Reginald Stuart Poole styles them, the *Season of Vegetation*, the *Season of Manifestation*, the *Season of the Waters*. He adds : " There are diversities of opinion respecting the interpretation of the names of the first two seasons ; and what I have given as the interpretation of the name of the second season, is merely the radical signification of the group ; but the name of the third season is undoubtedly the ' Season of the Waters ; ' and this gives us an accurate means of ascertaining the characteristics of that tropical year to which these names of the seasons must have originally applied.¹"

Birch, Kenrick, Osburn and others, coincide in this view of the calendar. Says Osburn : " The year, in Egypt, naturally divides itself into three seasons : four months of sowing and growth, corresponding proximately with our November, December, January, and February ; four months of harvest, which, in like manner, may be vaguely marked, in our calendar, by the months from March to June inclusive ; the four months, or moons, of the overflow, complete the cycle of the Egyptian year. This division of the year obtained in Egypt at the most remote period of which we have any record.²"

In the divisions of the year, and in the reading of the hieroglyphics for each period, Lepsius follows Champollion without deviation. He classifies the three periods of four months as the *Inundation* (*Wasserjahreszeit*), the *Spring-time* (*Frühlingsjahreszeit*), and the *Season of Fruits* (*Fruchthjahreszeit*). Each month of these several periods, while it bore the generic sign of its period, had also a particular hieroglyphic of the presiding divinity of that month. The names of the months were really the names of Month-gods, as given, with minor variations, in the tablets of Thebes and Edfu. These names are *Thoth*, *Paopi*, *Athor*, *Chocak*, *Tobi*, *Mechir*, *Pharmenoth*, *Pharmuthi*, *Pachons*, *Paoni*, *Epep*, *Mesoré*. The whole system is finely exhibited, in a tabular view, by

¹ *Horæ Aegyptiacæ*, London, Murray.

² *Monumental History*, I: 14, 143.

Lepsius, at page 134 of his *Chronologie*. The first column contains the ruling hieroglyphic symbol in each of the three periods. The second gives the Hieratic¹ writing for each month; the third, the Demotic² for the same; the fourth, the Coptic, in both the Theban and the Memphian dialects; the fifth, the Greek; and the sixth, the Arabic names of the months; the seventh and eighth, the hieroglyphics of the divinities of the several months, from the groups of Thebes and Edfu respectively. Wilkinson and Poole give also the modern Coptic names of the months; so that our means of comparison are as complete as could be desired.

The symbols of the three periods Lepsius, after Champollion, describes as follows:—The first is represented by a *reservoir* above, with the determinative of *waves* below, thus ; the second by a *garden* ; the third is represented  by the plan of a *house*—*h*, and the phonetic complement of the *mouth*—*r*, , signifying *her*, and equivalent to the Coptic term for *cibus, alimentum*. Lepsius adds that these interpretations of the hieroglyphics for the three seasons, long ago given by Champollion, are so perfectly obvious that they need no further elucidation.³

With this strong array of authority in favor of Champollion's reading of the Egyptian calendar, it looks like temerity for a single explorer in the field of hieroglyphics to question that reading. But here, as in every department of science, evidence, not authority, must determine truth. *Brugsch*, who in Egyptian research, disputes the palm with Lepsius himself, announces a discovery of the phonetic value of the upper term in the hieroglyphic sign for the second *Tétraménie* of Champollion (*la Récolle*, the Ingathering), which reverses the whole notation of the Egyptian calendar. Champollion assigned to the initial character of this hieroglyphic, viz. the house-plan , the phonetic value of the letter H; and he regarded the entire sign HeR as a verb,

¹ The *hieratic* is related to the *hieroglyphic* as our written style to printing.

² The *demotic* has simpler characters, and a more popular style.

³ *Chronologie*, p 148.

meaning to *appear*, to *manifest itself*. Brugsch asserts that this rendering was derived solely from a comparison of the hieroglyphic and Greek texts of the Rosetta Stone; and that neither Champollion nor his successors have ever been able to determine the Coptic equivalent for this initial. This failure he imputes to a confusion of terms.

“The reading HeR owes its origin to the confounding of the initial sign  with another character  = H, whose phonetic value is established by a number of proofs. That these two signs have nothing in common, is proved by the *demotic*, in which the first , representing the plan of a house, is expressed under the form λ [an inverted γ , with a double stroke upon the left]; while the other, on the contrary, takes the form \wedge [an inverted \checkmark], which equals the letter H. But if one examines carefully the texts, both hieroglyphic and demotic, in which this character occurs—taking a number of words, and especially the proper names of Egyptian cities—the sign  (λ , in demotic) is found to be but an interchangeable phonetic (*variante phonétique*) for the well-known character , represented in demotic by υ , whose equivalent is P. For example, the demotic name of the island of Philæ, is written either with υ or with λ at the beginning.” So of many other names, of which M. Brugsch gives a large number of examples. This argument for the reading of P instead of H as the equivalent of the hieroglyphic of the house-plan, seems perfectly conclusive. The demotic character υ undoubtedly equals P. This character υ is often interchanged with the demotic λ . Either character is used indifferently. Therefore λ also equals P. But λ is the demotic representative of the hieroglyphic , and therefore P and not H is the phonetic value of that sign.

The substitution of P for H wherever this hieroglyphic occurs, improves the rendering of many inscriptions as translated by Champollion, Birch, and others, and elucidates some that were wholly obscure. The value of P applied to the hieroglyphic group in question, in the same manner as to its hieratic and demotic representatives, gives the reading PeR; which is also sustained by the Coptic.

This reading PeR or PeRI, which M. Brugsch substitutes for the HeR of Champollion, he makes equivalent, in its primary verb form, to *oriri, nasci*. Coupled with the hieroglyphic sign for the mouth, he makes it equal to *annuntiare, narrare, proferre, narratio, fabula*. In applying this reading to the hieroglyphic sign of the second season of Champollion's calendar, M. Brugsch remarks:—

“ Before I had discovered the reading PeR, I could not satisfy myself as to the meaning of the word as there read; and so, notwithstanding my doubts, I adopted, in my Demotic Grammar, the explanation given by Champollion in the tabular groups of the twelve months of the Egyptian year. The reading PeR, for the group representing the second season, solves all my difficulties. This word, as the name of a season, is very well preserved in the Coptic by $\Phi\rho\omega$ and $\Pi\rho\omega$, both feminine, which, in that language, mean *winter*, so that the second quaternary of months (*tétraménie*) in the Egyptian year is not that of harvest (which corresponds to *summer*), as Champollion had supposed. If we adopt the signification of *winter* for the second quaternary of months in the Egyptian calendar, a very grave question arises as to the succession of the seasons; for this must be altogether different from that established by Champollion.”

M. Brugsch calls attention to the fact that, in many hieroglyphic texts, *two* groups representing the seasons are contrasted with each other, just as we contrast summer and winter. The group thus contrasted to PeR is $\overset{\circ}{\text{Se}}\text{MOU}$ or $\overset{\circ}{\text{SOUM}}$, which signifies heat or *summer*.

The reading of *summer* for  = $\overset{\circ}{\text{Se}}\text{MOU}$ or $\overset{\circ}{\text{SOUM}}$, instead of *inundation*, is confirmed by an inscription given in “*Die Denkmäler Ägyptens*” (Abtheil iii. Taf. 140 b). This inscription states that the king had caused a well to be dug in order that persons might quench their thirst “during the ‘heated-term’ in $\overset{\circ}{\text{Se}}\text{MOU}$.” But why dig a well for quenching thirst in the time of the *inundation*? *Summer*,

the time of heat, is clearly intended. Hence M. Brugsch argues that the Egyptians had but *two* seasons.

"If, then," he adds, "I have satisfactorily shown that the season PeR is that of winter, as SOUM is that of summer, or of heat, the three tétaménies and the commencement of the Egyptian year are altogether different from what is commonly supposed. That which is represented by $\overline{\text{yxy}}$ (trees and plants springing from the water of the inundation), and with which the Egyptian year commences, is not the season of vegetation, but really that of the inundation, comprising the first four months of the year. The season following is not that of harvest, but that of winter; and the third is not the season of the inundation, but that of summer."

The difference between M. Brugsch's division and that of Champollion is clearly exhibited by the following diagram :

Months, each 30 days	Tétaménie, or Four-month periods, according to Brugsch.	Seasons, by Brugsch.	Months, of our Caler. d'yr.	Tétaménie, according to Champollion.
1	The Inundation. ^c Se. Coptic, <i>Fluctuatio</i> .	Summer.	June—July.	Vegetation.
2			July—August.	
3			Aug.—Sept.	
4			Sept.—Oct.	
5	Winter.—PeR. Coptic, <i>hiems</i> .	Winter.	Oct.—Nov.	Harvest.
6			Nov.—Dec.	
7			Dec.—Jan.	
8			Jan.—Feb.	
9	Summer. ^c MOU. Coptic, <i>Æstas</i> .	Summer.	Feb.—March.	Inundation.
10			March—April.	
11			April—May.	
12			May—June.	

The five Intercalary Days — June.

M. Brugsch begins the year with the period of the inundation. This accords with all ancient authors who treat of Egypt. He maintains that Champollion has placed the beginning of the year eight months later than the fact.

In conclusion, M. Brugsch remarks: "I am far from sharing in the opinion expressed by M. Lepsius, in his Chronology of the Egyptians, "that the interpretation of the seasons, made long ago by Champollion, requires no further examination. Had not a false appearance of evidence confirmed

that great Egyptologer in error, all who have followed him, including M. Lepsius, would doubtless have been struck, as I have been, with the difficulties and contradictions which appertain to the received division of the Egyptian seasons."

The bearings of this discovery upon Egyptian chronology, we cannot at once determine. M. Brugsch does not indicate these in his Memoir, but modestly lays his discovery at the feet of Egyptologists. We learn, however, that in private conversation this gentleman inclines to a much briefer chronology of ancient Egypt than that of Lepsius and Bunsen. This he may develop in his forthcoming work on the geography of Egypt. M. Lepsius cannot well overlook the challenge of his great rival; and, in due time, this discovery must work a revolution in Egyptian chronology. Egyptology, like Geology, must pass through successive phases before it is settled upon the basis of accepted and irrefragable science. Let theologians not be disturbed by "chimeras dire." Let them remember the Zodiac of Dendera. In due time light will be brought forth from Egyptian darkness, and truth will be established in her perpetual harmonies. The Bible can afford to wait until Science shall have matured her opinions. There never can be a real conflict between them.

It is a source of regret that America has contributed so little to Egyptology. May we not hope that, in connection with the Cooper Institute in New York, which is to contain the fine collection of Egyptian Antiquities made by Dr. Abbott, some Birch, or Brugsch, or Poole will arise, to wipe off the disgrace which such charlatans as Nott and Gliddon are bringing upon American science?

The investigations of M. Brugsch touching the Egyptian calendar, are followed, in his *brochure*, by a Memoir upon certain planetary observations recorded in demotic writing upon four Egyptian tablets. These tablets are included in the valuable collection of Egyptian antiquities made by Rev. *Henry Stobart*, an English clergyman, in his travels in Upper Egypt, in the years 1853 and 1854. A *fac simile* of the inscriptions is given in the plates that accompany the Memoir. The tablets are of wood, measuring each four inches by two and

a half, and are covered upon two sides with quintuple columns of demotic characters. These prove to be a series of observations upon the places of five planets in the signs of the zodiac. By the reading of these tablets in comparison with the zodiac and the rectangular planisphere of Dendera, M. Brugsch corrects Lepsius as to the order of the five planets in the astronomy of the ancient Egyptians, and also in the hieroglyphic reading of the planets themselves. The following table exhibits these differences.

Lepsius.	Brugsch.
1. HeR-KA = Jupiter.	HoR-KA = Saturn.
2. HeR-TOU = Venus.	HoR- ^c SoT = Jupiter.
3. HeR-TO ^c S = Mars.	HoR-To ^c S = Mars.
4. re-NouTeR = Mercury.	re-NeTeR-TOUA = Venus.
5. SeB = Saturn.	SoWeK = Mercury.

Thus widely do these eminent Egyptologists differ as to the basis of the chronology of Egypt. The matter cannot end here. Not even Lepsius can afford to ignore Brugsch, as Bunsen and others affect to despise Mr. Poole. M. Brugsch does not hesitate to charge a grave error of interpretation upon the author of the *Chronologie der Ägypter*, which must seriously affect his whole chronological system. In proof of this, he adduces the evidence of these newly-found tablets, and of numerous other astronomical inscriptions. Whatever may be the issue of this diversity between the two leading Egyptologists of Berlin, certain it is that the chronology of Egypt is not yet adjusted to a scale so fixed that it is worth while to try to conform to it the elements of Biblical chronology scattered through the Old Testament.

The order which M. Brugsch assigns to the planets, in Egyptian astronomy, corresponds with the common astronomical faith of the nations of antiquity. In Mr. Stobart's four tablets, these five planets follow each other twenty-eight times, in the same order. M. Brugsch prepared a careful translation of these tablets, to be submitted to the leading astronomers of Europe. He appends

a letter from the eminent astronomer *Biot*, of Paris, from which we translate the following :

“ I have great pleasure in informing you that the astronomical restoration of the demotic tablets has been made at London, by Mr. Ellis, an assistant of Mr. Airy, of the Greenwich Observatory ; and that this accords remarkably with your conjectures. Mr. Airy himself informs me of this, in a letter which I received from him yesterday, and I hasten to transmit to you this good news. Mr. Ellis finds that these are, without doubt, records of the places of the planets ; those which he has restored, extend from the year 105 to the year 114 of our era. This last point corresponds with the close of the reign of Trajan in Egypt — as you had conjectured. The Egyptian year, according to which these places are registered, is found to have commenced on the 29th of August by the Julian calendar, which shows that the dates are conformed to the fixed Alexandrine year, which was in use in Egypt from the fifth year of Augustus.

“ The most useful result of your discovery will be, I think, the ascertaining beyond a doubt the names that the Egyptians gave to the five planets, the characters with which they wrote these, and *perhaps* the special symbols, if such there were, by which they designated them ; these last may possibly be recovered from the Pharaonic monuments. That these notations of planetary places were made *after actual observations*, seems to me not at all probable. In fact, for this there must have been, in the time of Trajan, at Thebes or Memphis, a grand observatory, manned by accomplished observers, well appointed with instruments, and making constant note of the movements of the planets ; — all things of which there is no trace in Egypt at that epoch, except at Alexandria, and there only to a limited extent. I therefore incline to regard these tablets as having been the *note-book (calepin)* or the *year-book* of a Roman or Greek astrologer living in Egypt, who thus inscribed, for his own use, the places of the planets calculated in advance according to the Greek astronomy ; merely transforming the dates of the vague year, into corresponding dates of the fixed year.”

Such is M. Biot's conjecture as to these curious tablets. However viewed, they must furnish additional data for the determination of the chronology of Egypt, by the help of her astronomical records.

ARTICLE VIII.

NOTICES OF NEW PUBLICATIONS.

LENTEN SERMONS.¹

FIRST of all, as we peruse these discourses, our attention is arrested by the boldness, and even baldness, of their style. These qualities would be the less noticeable, if the discourses had emanated from a less aristocratic circle. The Bishop of Oxford, in his *sermon on Half-Repentance*, exclaims: "How many a cry for mercy, in that hour of agony, [the hour of death-bed repentance, so-called] is only the howl of the unrenewed nature under the whip, not the turning of the heart to God!" p. 14. Half-repentance "stands close beside men, watching for their soul, like some gibbering devil transformed for their destruction into an angel of light." p. 15. The tenth sermon in the volume is entitled "Our Lord's Agony," and is written by Thomas Thelsson Carter, M. A., Rector of Clewer, Berks. Here we read such passages as these: "We have seen how, in the depth of *the agony of God*, sorrow finds its consolation." p. 19. "Such an one, then, can feel the blessed consolation which flows from the agony of God, and can hear God in His sorrows speaking with the voice of a man to man's heart." p. 14. "It is impossible not to deny one's self, while one considers *the sufferings of God*." p. 23; see also p. 25. "God has not only taken into Himself the nature of man, He has taken into Himself the consciousness of the wounds which He received in that nature. The sympathy of God for human suffering is the result of the experience obtained through the inward trials of His own sensitive nature." p. 18. It is certainly not usual to speak of God's obtaining experience from the trials of God's sensitive nature, or of God's consciousness of the wounds which He received on the cross. The

¹ Lenten Sermons. Preached on the evening of each Wednesday and Friday, during the season of Lent, in the Church of St. Mary-the-Virgin, Oxford. With a Preface by Samuel, Lord Bishop of Oxford. Oxford, and 377 Strand, London: John Henry and James Parker. 1857.