Egyptology and the Book of Mormon

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Abstract: This series proposes that the characters on the gold plates were derived from Hieratic or Demotic Egyptian (Mormon 9:32-33). Analysis of other major written languages available ca. 600 B. C.—i.e. Phoenician-Hebrew, Egyptian hieroglyphs, cuneiform—reveals that they do not meet the writing requirements outlined in the Book of Mormon itself. The nature of the gold plates as an alloy is also discussed. The first part covers Phoenician-Hebrew and Egyptian hieroglyphs.

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By R. C. W.

Nearly everyone who reads current literature is familiar with the term "scientific criticism," which indicates the methods followed by scholars in determining, as far as possible, the meanings of ancient documents and their claims to credibility, through study of their linguistic and grammatical structure and the historical accuracy of their references. The term is particularly familiar through its application to study of the Bible, and, in spite of the ultra-logical excesses of some scholars, which have caused consternation in conservative minds, very many valuable facts have been revealed.

Of course, in this connection, the word "criticism" is used in its primitive sense of "judging," "determining," etc., rather than in that of "finding fault," as some might be led to suppose. A critic is merely a judge (according to the primitive meaning of the word in Greek), one who decides a matter on the evidence at hand. Thus, one who possesses a "critical knowledge" of a subject is he who is capable of deciding questions on the basis of essential facts and principles. Many people learn foreign languages well enough to carry on ordinary conversations, or to read general literature, and consider it unnecessary to go further. But the man who has a truly "critical" knowledge, either of his own or any other language, is one who understands the structure and derivation of words, the significance of idioms, etc. He is the only one who really understands the language, or who can use it with the greatest effect.

Thus, for the study of ancient books, there are two distinct kinds of criticism, known by the terms "higher" and "lower," but which might be designated, with equal, or better,

force, "general" and "particular." A quotation from Professor A. H. Sayce will serve to define them. He says:

"By the 'higher criticism' is meant a critical inquiry into the nature, origin, and date of documents with which we are dealing, as well as into the historical value and credibility of the statements they contain. The two lines of inquiry depend a good deal, one upon the other. * * * In this investigation, however, into the nature and origin of the documents with which it deals, the 'higher criticism' is largely dependent on the aid of the 'lower criticism.' By the 'lower criticism' is meant what we have been accustomed to call 'textual criticism', a method of criticism which is wholly philological and paleographical, busied with minute researches into the character and trustworthiness of the text, and the exact significance of its language. * * * The 'lower criticism,' accordingly, can be called 'lower' only in so far as it is, as it were, the handmaid of the 'higher criticism,' without whose help the 'higher criticism' could not advance very far. Moreover, a large part of the most certain facts upon which the 'higher criticism' has to rely are furnished by the 'lower criticism.' "

With such a body of literature as the Hebrew and Christian scriptures of which we have ancient editions in the original languages; also, and equally important in many particulars, ancient translations (as into Greek, Chaldee, Syriac, Samaritan, etc., as bases of comparison), and whose contents refer to matters of history, archaeology, etc. which are perfectly known from other sources, scientific determinations of values in nearly every line are rendered readily possible. With such a work as the Book of Mormon, however, the case is, unfortunately, otherwise in numerous particulars. Had we a perfectly decipherable transcript from the plates, whence, according to belief and testimony, it was translated, we should be able to progress immensely toward a true scientific criticism of its language and contents—greatly to the encouragement of all who accept the claims made for it. But, to the present time, apart from some valuable archaeological data in confirmation of its claims to antiquity and historical accuracy, the best presumtive evidence in its favor has been derived from the studies of those writers who have enlarged upon the stylistic differences between the several books and sections composing it and the evidences favoring the reproduction of Hebrew idioms in the language used by the translator.

The present paper attempts to extend the investigation a step further, and to present evidences based upon the accuracy of statements made in the text, which betray either precise knowledge of ancient languages—knowledge, also, which neither Joseph Smith, nor any of his associates, could have possessed— or else such remarkable examples of "good guessing" that one might be excused for doubting that such coincidences are pos-

sible. In any event, if the facts here cited really be found to indicate mere haphazard guessing, rather than accurate knowledge, we have had our choice between two entirely exceptional alternatives.

Apart from all other considerations, an entirely candid mind must admit that the conditions relating to the "coming-forth" and "translation" of the Book of Mormon are, to say the least, peculiar. The primary claim made by Joseph Smith is that the book was translated "by the power of God" from ancient documents, written either in a language which he called "reformed Egyptian," or else in a style of writing so designated. As we shall see later, this expression certainly refers to the style of writing—the particular signs or characters used in forming its message—whether, or not, also to the language expressed.* Thus, to cite the first "peculiar circumstance," when, in 1827, Martin Harris showed Professor Charles Anthon a professed transcript from the plates of Mormon, he showed him a document which he has described as consisting of "all kinds of crooked characters, disposed in columns, * * * Greek and Hebrew letters, crosses and flourishes, Roman letters inverted, or placed sideways, etc." And to this description Anthon added, "I * * * well remember that the paper contained anything else but Egyptian hieroglyphics."

If we may judge from Anthon's written expressions on this subject, he was certainly not inclined to favor Joseph Smith's claims in regard to the "transcript"—although Martin Harris seems to have derived, and acted upon a different impression—and his verdict has been frequently quoted as "scholarship's first condemnation of Mormon assumptions." Let us not try, however, to strain more out of a man's words than they evidently contain. Dr. Anthon, although a famous authority in Greek and Latin classics, possibly also conversant with Hebrew, Arabic, etc., is not known to have made a considerable study of the then new science of Egyptology. Judging his knowledge

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*Among students of the Book of Mormon there is a difference of opinion as to the language of the plates. Some hold that both the language and the letters were Egyptian, altered or "reformed" to meet the needs of the people of these continents. Others believe that the language used was the Hebrew, with such changes as time and altered conditions and surroundings bring to every spoken language, but that the letters used were "reformed" Egyptian, which occupied less space than the old Israelitic or Phoenician, which was also a "reformed" Egyptian, in use among the Hebrews before the adoption of the Aramaean and with which Laban, Lehi, and Nephi must have been acquainted. Mor. 9:32 seems to require this view, for there the explanation is made that it is the *characters* which are called "the reformed Egyptian." See *Story of the Book of Mormon*, by George Reynolds, p. 368, where both views are stated.—*Editors*.

from his written words, he seems to have considered that a document ostensibly written in "anything else but Egyptian hieroglyphics" is conclusively demonstrated, in that fact, to be of extra-Egyptian origin. Why did he not add that this transcript was not written in any form of the Hieratic or Demotic character, and thus attest conclusively—supposing that he possessed the knowledge sufficient—that it was not, and could not be, Egyptian? Most probably because, like most people of his time, the learned as well as the unlearned, he associated the idea of Egyptian writing with the Hieroglyphic character exclusively. Knowledge of the Hieratic, in particular, was rare at that day, as at the present; although this style was a very common medium in papyrus books of all ages.

The most probable inference from this is that, had Joseph Smith been, as some have held, a mere ignorant trickster, bent on perpetrating a hoax on the public, it would have been only reasonable to expect him to attempt justifying his claim to possessing an Egyptian document by issuing a screed in imitation of hieroglyphic writing. That this transcript was declared to be "anything else" may be held to suggest that his "ignorance" was not so dense as some have supposed. Either he knew that there are other styles of Egyptian writing, or else he hazarded a guess that there might be such. How clever a guesser was this Joseph Smith! Furthermore, if he attached the term "reformed Egyptian" to such other styles of writing, as compared with ordinary Egyptian, considered as hieroglyphics, he used a term both descriptive and accurate. By the word "reformed" in this connection we may understand a "modified" or "revised" style of writing, which perfectly describes either the so-called hieratic or the later demotic, both simpler than, but traceably derived from, the older hieroglyphics.

Regarding its original language and the character in which it was written, as claimed, the Book of Mormon contains three significant passages. The first of these (I Nephi 1:2) states:

"I make a record in the language of my father, which consists of the learning of the Jews and the language of the Egyptians."

The second (Mosiah 1:4) states that Lehi had been "taught in the language of the Egyptians," and that, "therefore he could read these engravings" on the plates of brass.

The third, and by far the most significant of the three (Mormon 9:32-33), reads:

"We have written this record according to our knowledge, in the characters which are called among us the reformed Egyptian, being handed down and altered by us, according to our manner of speech. And if our plates had been sufficiently large we should have written in Hebrew;

* * * and if we could have written in Hebrew, behold, ye would have had no imperfection in our record."

If we understand the word "language" in the first two passages as indicating a method of expression, graphic as well as vocal, we may reconcile their statements with those of the third passage, which distinctly applies the term "reformed Egyptian" to certain "characters," or forms of writing. In any event, the statements of this third passage are most significant, and seem to present a distinct challenge for a critical test of accuracy.

Careful reading of Mormon 9:33 will show two definite statements, readily verifiable or refutable, to the effects that:

(1) A narration in Hebrew characters, or in the Hebrew language, would occupy more space than the self-same ideas expressed in Egyptian characters, or in the Egyptian language.

(2) A narration in Hebrew would have "no imperfection," as compared to the same narration expressed in Egyptian; or, as we may understand, would present fewer uncertainties to the translator.

If both these statements are true, it is evident that their truth would be understood only by people acquainted with both Hebrew and Egyptian. It is surprising, therefore, to find them expressed in a book, which, as many confidently assert, was written *in toto* by unlearned men. If either statement had expressed a fact, leaving the other erroneous, one might invoke "coincidence" to explain the truth, and take the error as a matter of course. But, when we read two perfectly true, but not generally known, facts about the Hebrew and Egyptian languages and characters, in a book purporting to have been written by people familiar with these languages, we must confess that the matter deserves attention and analysis

In order that we may understand the matters with which we have to do in this connection, it will be in place to begin with a brief account of Egyptian writing. Although the style of writing which we know is so extremely ancient that we have no documentary evidences of the several successive steps in its development, the hieroglyphic figures were first used, undoubtedly, as simple pictures of things or commonly understood indicators of ideas, rather than as letters, syllables, or conventional indcators of separate sounds. In this particular, they were used, undoubtedly, just as are the Chinese characters at the present day. For, as is shown by ancient Chinese records and inscriptions, which are still extant, these complicated combinations of lines and strokes represent so many highly conventionalized pictures. When several of them are juxtaposed

to form a sentence, as we would say, the differentiation between things, ideas, parts of speech, etc., is to be understood by the order in which the several figures stand related. Thus, although there are several distinct languages or dialects among the people of China, differing so widely among themselves that conversation is difficult between representatives of several given sections of their great empire, they have a common written language, which all the learned can read. In all probability, the primitive hieroglyphic writing among the Egyptians served a purpose precisely similar.

At a comparatively recent period (about the 3rd century A. D.), the Japanese, profiting by the learning and traditions of China, as well as by its vast literature, made a notable advance by taking a selected number of typical Chinese characters, to be used with constant sound-equivalents in forming their syllabaries. Thus, they invented—for themselves—a thoroughly practicable system of phonetic writing, such as had never been imagined by the ultra-conservative Chinese. The original Japanese syllabary, called *Hirakana*, contained about 300 separate characters, which varied, or repeated, far fewer distinct syllabic sounds; but their later syllabary, called *Katakana*, reduces the number of characters to forty-seven, giving one definite character for each separate syllabic sound known to the Japanese language.

Among the ancient Egyptians the development of phonetic writing followed a very similar course. At a very early period they selected about fifty familiar signs for apparently true alphabetic use, or—according to modern scholars—to indicate so many consonant sounds, which were to be uttered with their vowels, either before or after, in accord with certain rules of writing. Thus, for example, their "r" sign could indicate either the sound "er" or the sound "re"; the "m" sign standing alone usually connoted the sound "em," and the "n" sign, the sound "en." In addition to these, there were a very large number of signs indicating one or more syllables, and which were used as true "syllabics" in all writings. Thus, the syllable "ba" is usually read (1) from the picture of a long-beaked bird resembling a heron; (2) from the picture of a ram or the head and fore-quarters of a ram; and (3) from a flaring vessel showing a flame rising out of it—probably a stove or charcoal burner. The first two of these are common equivalents of the human-headed hawk, the symbol of the disembodied human spirit *(ba)*, which, in turn, is often written with the third, as an index to its proper sound-equivalence.

Very many other characters, while recognized indicators of syllabic sounds, in precisely similar fashion, are used regu-

larly as "ideograms." That is to say, their use is proper to indicate the objects pictured; although, in later times, they are often used as syllabics, indicating definite sounds wherever they occur in spelling words.

In a very real sense, however, it may be said that phonetic writing among the Egyptians was never an entirely stable institution. That is to say, they were not content to write entirely phonetically, indicating sounds by recognized symbols, and deriving the ideas from the sounds corresponding to them in their language, as did other peoples even in antiquity. They used regularly with their phonetic signs numerous others, called "determinants," with the object of indicating the precise meaning of any given word, or of discriminating it from other different words precisely like it in sound and spelling. Thus, for example, the syllabic indicating the sound *khen (khn),* when written alone, or followed only by a determinant stroke, means "king," but, when followed by the determinant figure meaning "man," it means "slave" or "servant." Likewise, the syllabic indicating the sound *onkh (or ankh)*—this is the looped cross, or *crux ansata*—regularly indicates the idea of "life" or "living," also, in some connections, "oath," etc., but, when followed by the determinant figure of an ear, means "ear," "to hear," "hearing," etc. Although numerous familiar determinant figures are also used, in proper connections, as true syllabics and as ideograms, they are not to be read aloud, when used as determinants—any more than our marks of punctuation are to be read by the words "comma," "period," etc., except in proofreading—being only rather clumsy devices intended to guide the reader's mind to the particular senses of *ba* or *onkh,* for example, which the writer had in mind.

If we may judge from the findings of modern scholars, it would seem that the ancient Egyptian language was not rich in the number and varieties of its characteristic sounds. And this gives a clue to justification for their large use of determinants—discriminating words of similar or identical sounds, but of diverse meanings. Thus, even to the present time, there is considerable uncertainty about the precise number and character of its vowel sounds. Some have argued that the emphatic, or "long," vowel sounds, such as "u" and "o", etc., were absent, or unusual. Thus, it has been held that their vowels tended to merge into such common or "urvocal," fundamental sounds, as are found in such English words as *"about,"* *"assert,"* *"bird,"* *"oven,"* *"but,"* *"double,"* etc.; although, most probably, Egyptian writing indicates only consonants, and spells no vowels, precisely as did the ancient Hebrew, and other Semitic writing. It has been seriously doubted, also, if such

sounds as "l" and "r" were fully discriminated in early times. We know that the sign commonly rendered "l," in later inscriptions, is generally absent, or very rare, in ancient writings. Thus, the Rosetta Stone renders the Greek names *Ptolemaios,* or Ptolemy, and *Cleopatra,* with the recognized "l" sign—thus, *Petwalemis* and *Klawapatrat*—but the Damanhur Stele, in which scholars have recognized a duplication of the same inscription, gives the Greek *Telemachos* with an "r"—thus, *Thurimekus*—and spells *Arsinoe* as *Alsarnat.* The sounds "l" and "r" are "liquids" or "continuants"—some languages, such as Sanskrit, have recognized "l" and "r" vowels—and the confusion between them may be partially understood by vocalizing, or continuously sounding, them. Then, as will be found, they differ only in the position of the tongue; and, that being altered, are to be readily changed, the one sound into the other.

In spite, however, of its several clumsy complications, as well as of other defects in the spoken or written language, Egyptian is characteristically "brief and to the point." The Egyptians were a truly literary people. After the invention of papyrus, at a very early date, they busied themselves with producing numerous books. But, as may be understood, the physical labor, involved in transcribing the hosts of pictures familiar in hieroglyphic writing, must have effectually discouraged writers whose ideas flowed readily. Consequently, like the Chinese, when faced with a very similar situation, they early devised conventionalized equivalents for their picture signs, and the character thus produced is known to us as the "hieratic." Undoubtedly, the hieroglyphic pictures were first written cursively, in a manner analogous to our own handwritten script, in which we reproduce our square "printing" letters. This method is found conspicuously in the so-called "hieratic" of later times. And, as we may understand, the cursive signs were still further simplified, with the growing habit of writing, until most of them came to bear little, if any, resemblance to the original hieroglyphic pictures.

All this process of development took place so very anciently that the earliest examples of the "hieratic," or conventionalized hieroglyphic, writing, now extant, have already reached the second stage. An example of the earliest, or "old-empire," style of hieratic may be seen in the accompanying transcript of the first four lines of the "Precepts of Ptah-Hetep," as given in the famous *Papyrus Prisse.* This work, which professes to have been written in the reign of a king of the Fifth Dynasty, believed to have lived about 3,500 B. C., but found in a tomb of the Eleventh Dynasty (about 2,500 B. C.), has been called very generally "the oldest book in the world." As may be seen
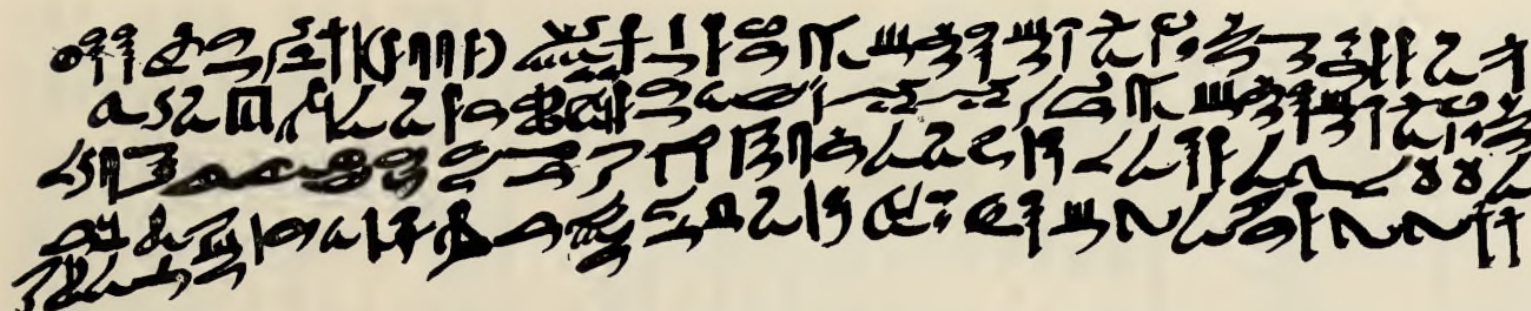
First page of four lines of the Sbayt ent Ptah-Hetep, or "Precepts of Ptah Hetep," professedly written about 3500 B. C., and exhibiting on excellent example of the heiratic writing of the "old empire" style. ..In very few cases is the resemblance of characters to the older hieroglyphics sufficiently clear to be recognized.
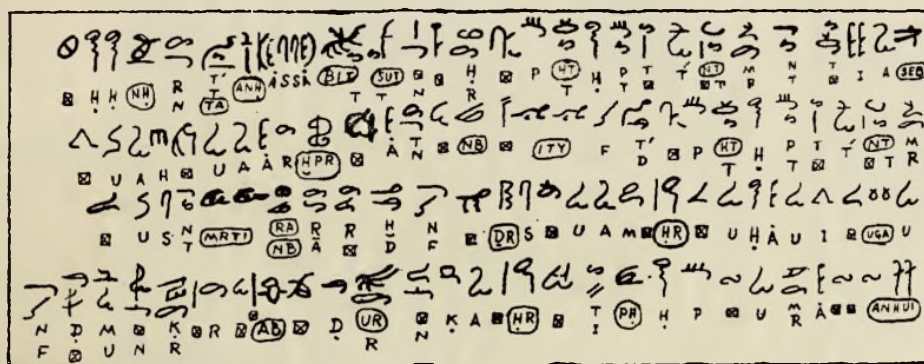
Copy and transliteration into modern characters of the first four lines of the manuscript book "Precepts of Ptah-Hetep." The compound characters of the original consisting of two or more separate signs, have been carefully separated, so as to show the several elements clearly. The English characters shown surrounded by a framing line indicate the recognized values of syllabic signs, which, properly stand for one or more syllables, rather than for single alphabetical sounds. The cross enclosed in square, indicates a determinant figure or stroke.

in this copy, the Egyptians of that early date were already expressing their ideas in "all kinds of crooked characters," some of them closely suggesting "Greek and Hebrew letters, crosses and flourishes, Roman letters inverted, or placed sideways," etc. Had Professor Anthon attempted to describe the writing of the Papyrus Prisse—it had not been discovered in his day—he could have used no more graphic words.

The *Papyrus Prisse* was written, evidently, with a reed pen, in characters averaging a half inch in height, and showing evidences of rapid work. Its writing is to be read from right to left. As direct analysis of its contents would be difficult—particularly since, as seems inevitable, there is little obvious uniformity among the several repetitions of identical characters—a transcript into hieroglyphics, with transliteration and running translation, is added. As this transcript, following the judgment of noted authorities, reproduces the hieratic text "letter for letter," the characteristics of Egyptian writing are made readily manifest. According to current practice, followed in the printing of hieroglyphic books, as well as in all grammars and readers of the Egyptian language now in use, the text is to be read from left to right, like English, and most modern and non-Semitic languages. The regular Egyptian practice was to read from the right, but some inscriptions read from the left, as indicated by the fact that the human and animal figures face in that direction.

These four lines give the title and part of the introductory paragraph of the treatise. One fairly accurate translator (B. G. Gunn) renders it as follows:

"The Instruction of the Governor of his City, the Vizier, Ptah-Hetep, in the Reign of the King of Upper and Lower Egypt, Isosi, living forever, to the End of Time."

This completes the first line, which may be regarded as the title of the book. The introductory paragraph then follows:

"The Governor of his city, the Vizier, Ptah-Hetep—he says: 'O Prince, my Lord, the end of life is at hand; old age descendeth [upon me]; feebleness cometh, and childishness is renewed. He [that is old] lieth down in misery every day. The two eyes are small; the two ears are deaf. Energy is diminished—the heart hath no rest. The mouth is silent, and he speaketh no word'."

This completes the contents of the first page, or the first four lines as they appear in our transcript; but the remainder of the paragraph continues the sad recital, thus:
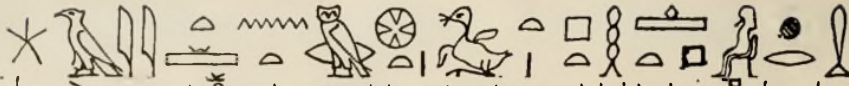
"'The heart stoppeth, and he remembereth not yesterday. The bones are painful throughout the body; good turneth into evil. All taste de-
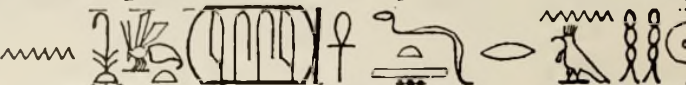
parteth. These things doeth old age for mankind, being evil in all things. The nose is stopped, and he breatheth not for weakness [?], whether standing or sitting.' "
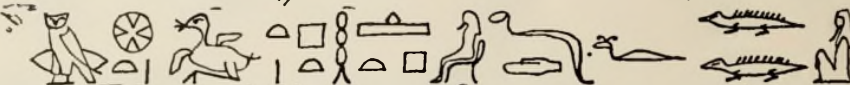
In consequence of the disabilities mentioned, the Governor of his city asks to be relieved of his official duties, and then proceeds to give his "precepts" for the guidance of all who would follow the way of wisdom. In general, his advice is wise and practical, much of it even lofty in sentiment, and characterized by a sound religious aspiration. The following is a fair example:
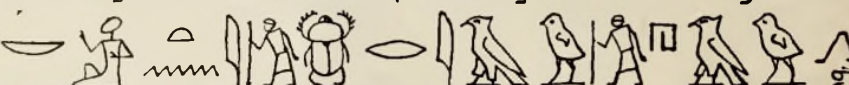
"If thou art become great; if after being in poverty thou hast amassed riches, and art become the first in thy city; if thou art known for thy wealth, and art become a great lord, let not thy heart become proud, for it is God who is the Author of these things for thee."

As will be noticed, the transliteration of the hieroglyphic transcript follows current practice in giving no vowel equivalents. Although several of these signs seem to have been used as true vowels in later times, particularly as seen in the transliteration of Greek names on the Rosetta Stone, etc., most Egyptologists seriously doubt their proper use to indicate vowel sounds, insisting that they are to be understood as real consonants, or as such "breathings" as are familiar in Semitic writing. The explanation of this contention is to be found in the fact that, as shown by their systems of writing, many ancient—particularly Semitic—peoples seem not to have dissociated vowel sounds from the consonants uttered with them in the formation of audible words. Thus, for example, such syllables as "ba," "ka," "ma," etc., were regarded as single sounds—consonants uttered through proper vocalization, without which they must have been only inarticulate clicks and grunts. They may have observed that the simple vowel sounds (not the compound sounds, such as "o" in "mote" and "a" in "mate") may be sounded continuously, after the accompanying consonant has been uttered. But, instead of holding, with modern opinion, that such fact establishes the vowels as true sounds separate from consonants, they recognized the fact, now usually overlooked, that vowels are never really uttered alone, but, if not uttered with true consonants, always with certain variable sound elements called "breathings." Thus, if a vowel, such as "a" or "u" is sounded in the front of the mouth, it is audibly different from the same vowel sounded with a guttural expiration, or "in the throat." And gutturals are far commoner, also more emphatic, in ancient, and Semitic, languages, than with us. The Hebrew alphabet, for example,
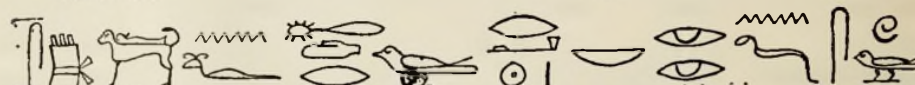
sb - ȝ - y - t   n-t m-r   nt-t   t-t   p-t-ḥ ḥtp-t-p   ḥr   ḥr
The teaching (which is) of chief of city   lord   Ptah Hetep   (in) reign
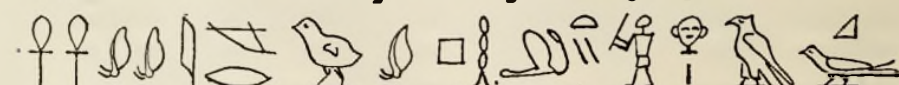
n   stn bit   i s s i   ꜥnḫ d-t-tȝ   r   n-nḥ-ḥ-ḥ
of King of Egypt   living forever to   eternity
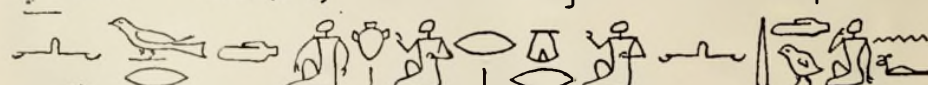
m-r nt t   t - t   p-t-ḥ ḥtp-t-p   d-d   f   ity
chief of city   Lord   Ptah Hetep   says   he   king

nb (i)   t - n - i   ḫpr - r   i-ȝ - w   h-ȝ - w
Lord my   old age   grows   senility   descends

w-gꜣ   iw-w   i-h-w   ḥr m-ȝ - w
weakness   comes childishness   at   renewal

s-dr   n-f   h-d-r   r ꜥ   nb   mrti   n-d - s-w
lies   he (in) misery   day   every 2 eyes (are) small

ꜥnḫi   i-m-r - w   p-ḥ - ph-t-i   ḥr ȝ - ḳ
2 ears   deaf (are)   strength   at   stop

n   wr-r - d   ib   rȝ g-r   n   m-d-w   nf
not   rests   heart   mouth silent   not speaks   he

Sounds- ȝ is the oral breathing; ꜥ the gutteral breathing; d like tch in "fetch"
ḫ and ḥ like German ch; t like English ch; ⊠ indicates determinant strokes.

Transcription of the hieratic of Ptah-Hetep into hieroglyphics, with transliteration and running translation. The determinant figures, which have no corresponding sound-equivalents, are indicated by captions written vertically.

recognizes two "breathings," known as *aleph* and *ayin*, the former oral or sounding in the mouth, the latter guttural, or sounding in the throat. Both were treated as consonants, because they had no proper sounds, except when uttered through associated vowels. The guttural breathing, *ayin*, which is properly peculiar to Semitic languages, gives an articulation characterized by a distinct approach to a gurgle, such as one would describe as a "growl." It uttered its vowel with an audible suggestion of the sounds of "g" or "r," occasionally, according to some authorities, with a sugges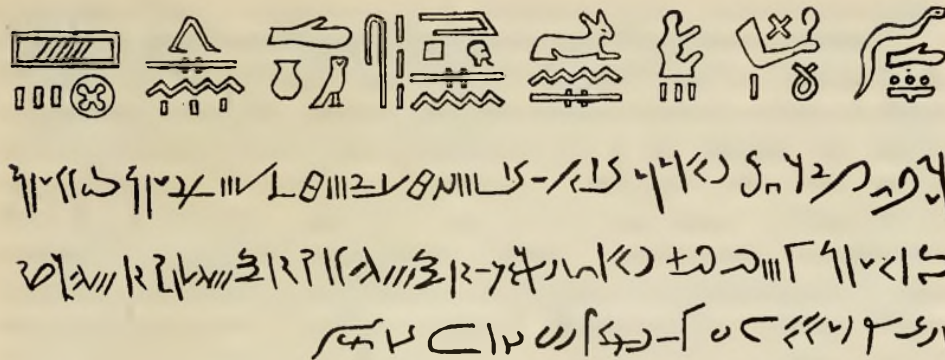tion of "n" or "ng." Thus, we fail to suspect it in the Biblical names, Eli and Amalek, but can derive some notion of its force in the names Gaza and Gomorra, all of which begin with *ayin* in the written Hebrew. If, then, as often happened, a word began with a vowel sound, as we would say, the first written character was either *aleph* or *ayin*, whatever the "initial" vowel, semi-vowel or diphthong.

The evident inference from this is that, because the Egyptian language was closely akin to Semitic dialects in its syntax and intimate constructions, it is reasonable to suppose that its systems of written sound-equivalents followed Semitic rules; regularly indicating only consonants and breathings, to be accompanied by their proper, or usual, vowel elements. When, therefore, for sake of comparison, we transliterate the Egyptian of Ptah-Hetep into the "square Hebrew," or "Chaldee," character, the breathings are to be indicated in accord with the rules of equivalence recognized by scholars.

The correct rendering in Hebrew writing of the Egyptian sounds of this passage, as they are understood by modern scholars, at any rate, would reqire, as may be seen, 148 separate letters. The hieroglyphic, or hieratic, original contains a total of 156 separate characters, all essential to proper Egyptian orthography. Of this total, however, we have twenty-one determinant figures, nine determinant strokes with various significations, and ten repeated consonants, written with syllabic characters, in order to enforce correct reading—forty in all—none of which can be represented in any Semitic writing except cuneiform. Thus, there remains a total of 116 characters essential to expressing the sounds proper to the inscription. The disparity may be partially explained by the fact that several of the Egyptian signs are disyllabic. It is also necessary to express initial vowel sounds by proper "breathings" in Hebrew, as already explained, a practice not consistently followed in Egyptian writing.

In addition to the other characteristics through which a Semitic writing would, on the average, and particularly in long compositions, require more space, character for character, the

שבאית נת מר נת סת פתח חתת חן נא־שתן
בית ישא שי ענח צתא אר נחח מר נרכת
פתח חתת צטח אתי נבי תני חפר יאו ה אֹר
וגא יו יחו חר מאו שצר נפ חטר רע נבמר
תי נצשו ענחי ימר פחתי חר אק אנורט יב
רֹא גר אן מטו נת

Transliteration, for sake of comparison, of the Egyptian text of Ptah-Hetep into Hebrew characters. The first six lines of this plate show the "square" Hebrew, or Chaldee, characters, which have been used in writing the language since about the first century B. C. The second seven lines show the text transcribed into the older Phenician-Hebrew characters, which were in use, as shown by various inscriptions, at least as early as 800 B. C. This latter style of writing furnishes the real basis of comparison in the present connection. It is the progenitor of the present-day Samaritan character.

Egyptian method involves the practice of grouping signs, or piling them up, in squares. This peculiar feature is found, also, in the hieratic writing of Ptah-Hetep, in which, in numerous instances, the smaller characters are literally run together in groups, in a fashion quite analogous to the writing of modern script. Although, as seen in this particular manuscript, the discrimination of the several distinct characters is by no means easy, the system represented marks a great advance toward simplicity, as compared with writings in the hieroglyphic style. Remembering that this manuscript reads from right to left, we may readily compare its figures with those in the hieroglyphic transcript. Thus we find the complicated bird characters, for example, represented by easily formed curved figures: the eagle (line 1, No. 2.), as a figure somewhat like script "l"; the owl (line 1, No. 1), as a figure suggesting a "spiral," and the

Hand copy of the fragmentary first line of the hieroglyphic text of the Rosetta Stone, showing the usual method of "piling" the characters into squares, instead of writing them lineally, as in most other written languages. Also the last line of the demotic inscription on the Rosetta Stone, showing the simplicity of most of the characters used in general writing at this stage of development.

duckling, which is the third lineal figure in the same line, as a modified capital "L" with its upright side crossed.

On the whole, the separate characters used in the style of writing represented in the Ptah-Hetep manuscript are simple, capable of being quickly written, readily distinguishable from one another, and capable of considerable reduction in size without confusion or danger of illegibility. Contrary in these qualities is nearly every known form of Semitic writing characters. Whatever may be the explanation, Semitic alphabets, as a rule, have included several forms that, if not carefully written, may be confused together. In addition, if reduced beyond certain very definite limits in writing, many of their letters, consisting of several essential strokes, would be liable to become indeterminate. Semitic characters, as a rule, must be written of a certain definite size—hence more room, letter for letter, is required for inscriptions in Semitic languages than for similar inscriptions in, say, Egyptian hieratic. Attentive examination of the Hebrew transcription herewith may reveal something of the intended lesson here expressed. But, if the real comparison is to be made between Egyptian writing dating from before 1,000 B. C., and Hebrew writing of a similar period, it is certain that we should not consider the "Chaldee" character at all, but some form of the Phenician writing, which was then current among the Hebrews. Probably the most typical character of this description is that of the Siloam inscription in Jerusalem, dating somewhere between 850 B. C. and 750 B. C. As may be understood from the transcription reproduced in its letters, they are not susceptible of use for inscriptions of very small size. They could not be

very far reduced, and maintain their respective characteristics.

The greatest qualification of the Egyptian writing for brief, or condensed, expression lies in the fact that by far the greater number of its characters are syllabics—many of them disyllabics. Thus, the figure of a lute regularly indicated the disyllable *nefer*, with the meaning "beautiful" or "good;" a hatchet indicated *neter*, meaning "god" or "divine;" while the beetle (scarabeus) represented *cheper*, connoting the idea of "becoming," "begetting," etc., hence of God as the Creator, or Generator. In most cases such figures are used for sounds proper to the names of the indicated objects in Egyptian, or, by common process of transference, to indicate other objects or ideas, similarly named, but of different description, precisely as in our familiar "rebus" puzzles. Thus, for example, the Goddess Isis was known to the Egyptians as *Ast*, but the same sound also meant "chair"—hence the picture of a chair, followed by one of an egg—the determinant for "goddess" in later times—regularly spells the name of Isis. The name of the sister of Isis was Nebhat, and, in order to indicate this, a dish or basin (*neb*) was placed upon the conventional picture of a house (*het*). So, also, with the name of the Goddess Hathor—a house (*het*) containing the hawk of Horus (*Hor)* was perfectly expressive.

Now, although the names given to the Hebrew letters, *Aleph, Beth, Gimel, Daleth,* etc., are all words with definite meanings, no one ever thought of using a letter to indicate either the sound or the object connoted by its name. Thus, *Ayin* means an "eye," and *Beth* means a "house," but these words are invariably spelled out. Again, although in Hebrew, as also in Greek and Latin, the letters of the alphabet are used as numerals, there is never an instance in Hebrew books where the names of numbers are not fully spelled. Thus, for example, they wrote *sheshah* ("six"), instead of indicating it by its numerical sign, the letter *vav* ("v"). On the other hand, the Egyptians regularly indicated all numbers by their arithmetical signs, and so seldom spelled out the corresponding words that we do not know how they spoke many of them. The same is true of several common objects, which they habitually indicated by pictures, never by spelling characters.

With this knowledge of the Egyptian methods in writing, we may understand its possibilities, as they might readily have appeared in the eyes of any man, or men, desiring to find and use a system of characters suitable for writing extended records in small spaces; such as on small parchment pages, on tablets of moderate sizes, and particularly, if small metal leaves, or "plates," were to be used. We need postulate no merely

hypothetical condition. It is quite evident that people desiring to make records of such character—be these "genealogical" merely, or fully historical—could have done no better, in the first millennium B. C., than to draw upon the immense treasury of Egyptian writing signs, in order to find the very mediums most suitable for their purpose. A selected number—say 300 or 400—from the numerous syllabics and ideograms used by the Egyptians could readily have supplied all the possible, or known, sound combinations in either Hebrew or Egyptian. It is not wholly improbable that a smaller selection would have answered all ordinary purposes. To claim that such selected signs were actually used as a ready means for making long records in small spaces, is merely to claim that some one in the past formed a convenient working syllabary from Egyptian hieratic characters, precisely as the Japanese formed their syllabary from the conventionalized Chinese pictures.

This brings us to another notable fact regarding the claims made about the "plates" of Mormon, and the characters with which they are said to have been inscribed. It is that, barring the Chinese system, which has not been mentioned in this connection, there was no other in the then known world, which could possibly have been "reformed," or modified, to serve the purpose indicated. No true Semitic alphabets could have been used for any such purpose, not only because they never contained a sufficient number of separate characters to serve as the basis of a syllabary for abbreviated writing in either Hebrew or Egyptian, but also because the necessary modifications to fit them for such a purpose would have required more inventing than would be possible to the average individual. The closest approach to such an attempt with pure Semitic characters is found in the Ethiopic syllabary, each of whose twenty-six letters in pure form stands for a consonant, or breathing, in combination with the short "a" sound; the other six vowel sounds being indicated by adding, in each case, a specially placed branch or horn to the pure form of the consonant. This gave a total of 182 separate characters, each monosyllabic, and each distinguished from all others in its own consonant series by a particular complication. Furthermore, because of these elaborations, and the care required to distinguish them, such a system would have been no better capable of use where characters must be written small and many of them assembled in small pages, or "plates," such as the Book of Mormon records are stated to have been, than could the earlier or later "Hebrew" characters with such a system as the familiar vowel-pointing, devised at a far later date.

(To be continued.)