Egyptology and the Book of Mormon, II

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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 second part covers cuneiform and the alloy of the plates.
One might reasonably ask, in this connection, why the Assyrian-Babylonian cuneiform characters were not better adapted for the purposes of Hebrews, or other Semites, wishing to write lengthy records in small compass. The answer is readily at hand. In the first place, and most important, the cuneiform characters were, in general, far more complicated than the Egyptian hieratic—many of them consisting of numerous distinct lines, or strokes, which would have precluded their use for inscriptions written small, beyond a certain very definite degree of reduction. In the second place, they had been developed in a truly peculiar manner, through the practice of pressing an angular-sided pointed stylus on moist clay, thus forming the characteristic pointed, “wedge-shaped,” lines. The separate characters, formed by such points in the manner indicated, would be difficult to imitate effectively by any other process of writing. On the other hand, the Egyptian hieratic characters of the older style consisted mostly of curved figures and occasional straight strokes, readily available for writing on papyrus with a reed pen, or inscribing on stone or metal with a suitable stylus. Being generally simple, or capable of further simplification, as shown in the several demotic styles, more or less directly derived from them, no exceptional intelligence would be required to recognize in their use the best available means for serving the very ends supposedly accomplished in the records on the “plates” of Mormon—writing the most possible in the smallest spaces.

The accompanying transcript of cuneiform characters will serve to illustrate their formation, also their availability for use in documents requiring simplicity and the possibility of considerable reduction. As may be seen, they consist, as their name “cuneiform” indicates, of wedge-shaped lines and dots in numerous combinations. That the wedge shape for these elements is indispensable is indicated by the fact that, as may be seen in many cases, the points are turned in different directions—now downward, now upward, now to the left, now to the right, and sometimes diagonally. It would be impossible
Part of a historical writing in cuneiform characters, showing their complicated structure and their unfitness for any writing requiring condensation. Hyphens connect syllables forming separate words in Assyrian. Words written vertically indicate signs used as determinants. Words in parenthesis indicate signs used with arbitrary values (“ideograms”), several of them being also determinants. The writing reads from the left.

to use them, except with some material, like clay, having a yielding surface to take, and keep, the contours of the stylus laid upon it. There are about 300 phonetic characters, alphabetic and syllabic, in common use; about 200 ideograms (arbitrarily standing for entire words), also numerous determinants. Very few of them approach simplicity. Indeed, in several cases if a small “wedge” points in the wrong direction,
the phonetic significance may be radically altered. According to the findings of modern scholars, also, very many of these signs correspond to two or three sounds, which adds to the difficulties of transliteration and translation. The transcript here given, with its recognized phonetic equivalents, consists of the two introductory sentences of Assurbanipal’s account of his first expedition against Egypt. These sentences are translated as follows:

“In the first my expedition to Makan and Miluhha I went. Tarku, King of Egypt (Mutsur) and of Cush (Kuusi) who Esarhaddon (Assur-ahihiddina), King of Assyria (Assur-ki), the father my begetter, his overthrow accomplished and took possession of his country, and he Tarku the might of (god) Assur and of (goddess) Istar and of the gods great, my masters, forgot, and trusted to the power of himself.”

According to the opinion received among scholars, the cuneiform writing was devised, and first used, by the Akkadians, a Turanian people—i. e., a people belonging to the same “race” as the Chinese—who spoke a language utterly different from that of the Assyrians. Their signs, many of which suggest Chinese, are, like them, undoubtedly, conventionalized forms of original pictures. But the Akkadians, like the Japanese, at a far later date, adapted their pictures to a style of phonetic writing. While it is not entirely clear which is the more ancient, the development of the Egyptian and cuneiform phonetic systems were evidently entirely independent.

It is interesting to note in passing that the construction of the Assyrian language involves numerous conditions of complexity, tending to a greater prolixity of style than either Hebrew or Egyptian. Neither it, nor its traditional written media, would be available for records requiring the writing of considerable volume in small spaces. It is a negative evidence, to be sure, but one well worthy of remark, that the Book of Mormon does not mention the “Babylonian” character, which could never have been used in writing it, but does specify the “reformed” Egyptian, which was its only possible medium, although, as must be acknowledged, it would have been neither ideal nor stenographic.

However, as we must recognize, any such system of Egyptian writing as we have discussed would have had its limitations. The very brevity which it would have rendered possible must have involved also numerous conditions of uncertainty to readers. Indeed, such constant liability to uncertainty seems to have inhere in every form of Egyptian writing. Even with the use of true alphabetic, or spelling, characters the scribes of all ages employed determinant signs and strokes with more or
less freedom; fearing, as we may suppose, that the word spelled might be mistaken for some other of similar sound or appearance, with different meaning. Even with syllables, they frequently wrote out all the involved letters of the proper sound, as if in fear that its sound-equivalent might not be understood by the reader. In the latter connection we may mention the first word of the Egyptian transcript already analyzed. It is sbayt, or sebayet, the first syllable, seb, being represented by the star-shaped character. Examples of this same word have been found in which the spelling is literally, s-b-sb-a-y-t, showing, in addition to the syllabic sb, the alphabetics s and b preceding it. This represents a practice by no means unfamiliar, although, in the present case, it may be explained by the traditional uncertainty as to the proper sound-equivalence of the star-shaped character. Primarily, as it seems, this character was used to represent the “morning star,” and because dwea, tua, or tua meant “morning,” it was often used with this syllabic value, as in the word meaning “praise,” which is commonly transliterated dwat. But, according to another tradition, it had acquired the sound-equivalence sb or seb, meaning “star;” hence the care of the scribe to spell the sound in this particular case before using the sign usual to the spelling of the word. In similar fashion, we find the name Hetep spelled with a syllabic commonly transliterated htp, but followed by the alphabetics t and p. The word usually rendered pehti, found in the last line, is spelled, as may be seen, p-h-ph-t-i. Other examples of the use of alphabetic signs with syllables, either to ensure the proper reading or to modify the syllabic significance, are often found. Thus, as already explained, the name of the Goddess Isis (Ast) is commonly expressed by the symbol for “chair,” or by that symbol followed by the alphabetic t; while the name of the God Osiris is commonly written with this same “chair” symbol (ast) followed by the picture of an eye, connoting the disyllable iri, to form the name Asir or Asiri. Evidently, the “chair” symbol could indicate either as or ast, according to subsequent determining alphabetic characters. In our hieroglyphic transcript again, we find the double sign rendered itty, which, although meaning primarily “two crocodiles,” the dual form of at or it—for the Egyptian, like some other ancient languages, recognized a dual number indicating two of any given object, as well as a plural number, indicating more than two—it has a “transferred significance” here, through similarity of sound probably, and means “king” or “lord.” Because its meaning is regularly “transferred” in this manner, the use of this sign with its “proper,” or primary, significance would require, undoubtedly, the use of a determinant character
to indicate that nothing other than "two crocodiles" was intended. The hieroglyphic transcript shows yet another example of usage liable to confuse, not only beginners, but also even the more expert. At the end of the second line, as may be seen, we have the symbol of the walking legs, here used as the determinant for motion, etc. It occurs again, however, as the fourth lineal figure from the beginning of the third line, being there used with the phonetic value ıw—and this sound means in Egyptian, "to walk," etc.

Apart from the difficulties involved in Egyptian orthography, further uncertainties are to be found in the persistent habit of rendering the different tenses of verbs, for example, by combinations so similar—often quite identical also—that only the total sense of a sentence can supply the true significance of the written form. Such difficulties, apparently so great at the present time, must have existed to some extent, even for the ancients. They are only a few of their kind, taken at random, to illustrate the qualities of Egyptian writing. The very brevity of expression which it made possible was accompanied by difficulties of other orders, some of them resulting directly from it, as we might suppose. It is nearly inevitable therefore, that any one adopting the Egyptian writing, even in "reformed" style, should have retained many of the common causes of confusion and uncertainty in reading. Hence, when, as in Mormon ix:33, we read of "imperfection in our record," we may understand some of the difficulties possibly referred to. We may derive some notion, also, that there might be strong reasons for modifications, or "reformations," in sundry particulars.

On the other hand, the Hebrew writing of all times—except possibly the very latest, when some "improvements" were introduced—has been clear and readily comprehensible. Its primary advantage is that all essential letters (consonants and breathings) are fully expressed, and that there are no "ideograms" (i.e., pictures instead of sound indicators), no syllabics (as distinguished from proper alphabetic characters), no figures (such as numerals, etc.), nor abbreviations of any variety. Thus, except in a few cases in which the consonants are identical—and there can be a dispute about the proper vowels, as, for example, whether the qal or piel conjugation of a verb is to be understood—there can be no uncertainty in the reader's mind as to the mood or tense of the indicated verb, for example, or as to the proper understanding of a sentence; provided only that such reader is familiar with the idioms of the language. As compared to written Egyptian, the Hebrew
Hebrew translation of the first four lines of the Ptah-Hetep writing; included in order to show the relative space necessary to its transcription, as compared with Egyptian in the hieratic style.

is very simple and readily comprehensible. And, except where the text is evidently corrupt—mangled by scribal carelessness or misunderstanding; where, as in some cases, the wrong vowels seem to have been attached in the pointing; or where traditional mistranslation, quite gratuitous usually, has created a strong presupposition to misunderstanding, there can be very few uncertainties as to the meanings of even difficult passages.

The facts and conditions so far outlined are of the greatest importance in enabling a judgment of the possibility and accuracy of the claims made in the Book of Mormon. They enable us to state positively, as follows:

If, in ancient times, at or about 600 B. C., any one had desired to compile lengthy records in limited spaces—necessarily using characters capable of being written small and able to express words and ideas briefly and as simply as possible—some modification of the Egyptian hieratic, "reformed," or adapted to the methods of Semitic writers, would have been the only suitable style of writing then available.

If anyone had used such a modified, or "reformed," hieratic character for such a purpose, he could, undoubtedly, have written very much more in any given space than if he had used Phoenician-Hebrew characters, or any other Semitic writing then known; because the Egyptian hieratic characters, being simpler, could be very much more reduced in size,
If, in compiling any such history as the Book of Mormon claims to be, such a writer had used the Egyptian language, as well as the Egyptian hieratic character, he could have expressed far more in any given space than would have been possible by using the Hebrew language written in Egyptian characters.

If, on the other hand, the writer of any such history had used the Hebrew language and the Hebrew characters, he could have produced a more readily comprehensible and translatable record, because (1) Hebrew alphabetic characters indicate spoken sounds far more definitely than any kind of syllabic characters then known, and (2) the Hebrew language, as well as the Hebrew method of spelling, gives more definite forms, to indicate the separate parts of speech and the various shades of meaning.

It is evident, therefore, that, so far as its statements go, the Book of Mormon shows accurate knowledge of, or gives accurate information upon, the language and the character in which, as it claims, it was originally written. Of course, we have no direct, or scientifically significant, evidence, apart from its own assertions, that any persons in antiquity really planned or undertook the compilation of the history which it claims to embody, or even that such people ever selected the particular literary medium in which it claims to have been written. It is certain, nevertheless, that no better medium—if any other whatever—could have been selected for their purpose, which is truly surprising, in view of the fact that the conditions already outlined—also distinctly specified by the writers of the Book of Mormon—are not, and never have been, matters of common knowledge nor even conclusions readily occurring to even intelligent minds. There are only two possible alternative explanations, therefore; either (1) the writers of the Book of Mormon were fully familiar with the facts, and stated them upon the basis of sufficient knowledge, or else (2) their statements indicate merely unmitigated guesswork, scarcely less remarkable, in view of their entire accuracy. Literature contains few examples of such striking coincidence.

Although a scientific examination, in such a case as the present one, can go no further than to establish a strong presumption of probability, it is certainly interesting to observe that, with the entire verisimilitude of its statements regarding the language and character used in writing it, the Book of Mormon is similarly accurate, or consistent, in regard to the material media employed in making its record. The claim is that the Book of Mormon was recorded originally upon metal "plates," or leaves, which, as we are told, had "the appearance of gold." Now, the "essential improbability," which some critics have professed to discover in this statement, is no greater than its scientific consistency. Thus, in accord with our previous suppositions, we may confidently assert that, IF any an-
cient people actually projected and executed records that should be, not only capable of the utmost condensation, but also in form materially permanent, they could have chosen no better material medium, for all purposes, than beaten gold. This metal, as is well known, excels all others in the property of "malleability," which is to say, it may be beaten out so thin as to be quite translucent. In its pure state, however, it is inferior in the property of "tenacity"—that is, when a sheet of gold is beaten very thin, it readily falls into pieces. If, however, it is alloyed with copper, its tenacity will be very greatly increased. While inferior to gold, silver and aluminum, in the property of malleability, copper is second only to iron, the most tenacious of all metals, in the property of tenacity. It is certain that the ancients practiced the art of alloying metals at a very early date. Thus, as early as 2500 B.C., we find contrasts between gold, which the Egyptians called nub or neb, with another metal known as wasm, or wasem, identified by some as "fine copper," or "bronze," and by others as "silver-gold" alloy. This latter word, occurring in the hieroglyphic inscription on the Rosetta Stone, has been translated by such noted authorities as Brugsch, Uhlemann and Chabas, to mean simply "gold"—such an alloy, possibly, as we know in coins, watch-cases, and the settings of jewelry.

Nor is the use of metal "plates," or leaves, for purposes of record, so evidently preposterous, even in the first millennium B.C. At the present day it is difficult to realize the obstacles to pure literary work in ancient times. Very early in their history, the Egyptians invented papyrus, a kind of paper made from the fibres of a plant then plentiful in the better watered sections of their country. It was their familiar writing material for thousands of years although unfamiliar outside of Egypt. Other ancient peoples wrote with ink upon parchment, a far more expensive material. But the Assyrians and Babylonians inscribed whole libraries upon tablets of clay—a procedure that would easily seem "essentially improbable," were it not that their tablets still remain. There are also examples of radical change in written characters adopted by people who sought to accommodate practice to material conditions. Of this phenomenon the "Oghams" of Wales and Ireland furnish a conspicuous exhibit. According to most authorities, the curious method of writing shown by these "Oghams" was introduced among the Scandinavian settlers in the British Isles, in preference to the "Runic" characters, in order to enable the keeping of records by means of "notches," as, for example, above, below, or across the edge of a squared staff or stone. Thus, of the twenty characters in common use, the letters \( h, d, t, c, q, \)
were expressed by from one to five cuts or notches above the line; \( b, l, u, s, n \), by from one to five cuts below the line; the vowels, \( a, o, u, e, i \), by straight cuts across the line, and \( m, g, ng, st, r \), by the same series of diagonal cuts across the line. Although scholars attempt to account for their derivation from the Runes, the resemblance would be entirely unsuspected by the average observer. Among the various devices adopted to enable the keeping of intelligible records in times when writing materials, as we understand them, were difficult of production, it may be in place to mention the "quipus" of the ancient Peruvians, composed of cords variously knotted, according to some scheme by which definite ideas could be expressed. On the whole, it seems possible to say that it is the "rule," rather than the "exception," in antiquity, for people desiring to make and keep records to modify, to adapt and even to invent both new writing characters and unusual methods and materials of transcription.

We can not pretend, of course, that the practice of writing, or "engraving," on metal leaves was general, or even familiar, in antiquity. But, on the other hand, it is eminently correct to state that there were no "general" practices in writing, nor any common materials in use. If, however, any one ever thought of using metal leaves for such a purpose, undoubtedly the metals specified in our record—"gold" and "brass" (either native copper or copper alloy) are the ones best suited to the purpose. Had the record mentioned iron, we might reasonably doubt its accuracy. We may conclude, therefore, that there is no essential improbability involved in the alleged practice of writing records on gold or "brass" leaves or "plates," in an age when people wrote upon clay tablets, wax-covered tablets, bones, fragments of stone, skins, or any variety of surface that could show a stain or permit a scratch or cut. For many peoples, also, the ancient practice of memorizing whole "books" was still in vogue as the real method of transmitting "literature," instead of writing on any kind of materials, or using any kind of characters. Thus, "in the days before people practiced writing"—to use a familiar characterization—or, to be more accurate, before they had invented inexpensive and readily available media, such as papyrus, parchment, etc., the faculty of memory was systematically cultivated to a degree unknown, if not impossible, at the present day. Then, bards, poets, lawyers, priests, and other learned, actually carried their "books" in their heads, and seem to have found "reference" almost, if not quite, as easy as do we, who have written or printed pages at our hands. Thus, according to Jewish tradition, the whole of the Talmud was preserved through times of
fierce persecution, by being imparted orally by the great rabbis to such pupils as would "hear and remember." In similar fashion, as we learn, the Sanskrit Vedas and the laws of Manu were preserved anciently in the memories of men, who were taught that the cultivation of memory was the greater part of education. Indeed, these two great departments of Sanskrit literature are still known, respectively, as Chruti, "what is heard" (i.e., "revelation") and Smrti, "what is remembered" (i.e., traditional law or custom). The practice of memorizing might furnish a partial explanation for the curious abbreviations of ancient writings—the expression of consonants only, etc.—which seem to warrant the supposition that the earliest written books were intended as mnemonic helps, rather than as original sources of information as with us. Hence, much of the mechanism of written language, now considered so essential, could readily be omitted; original information—as the material for memorizing—being habitually imparted orally.

In addition to the entire availability of the modified Egyptian writing for use in making condensed records, it may be in place to mention the further fact that the Egyptian language is characterized by greater brevity—even paucity—of expression than is possible in modern languages. This very quality leads often to a certain redundancy of style, as well as demanding—as we may assume—the use of the various devices already mentioned for making the meaning as clear as possible. To illustrate the probable form in which a given English sentence would appear in the Egyptian, we may select the characteristic passage, I Nephi, i, 1, which reads as follows:

"I, Nephi, having been born of goodly parents, therefore I was taught somewhat in all the learning of my father; and having seen many afflictions in the course of my days, nevertheless, having been highly favored of the Lord in all my days; yea, having had a great knowledge of the goodness and the mysteries of God, therefore I make a record of my proceedings in my days."

Although, as we might justly claim, this sentence could be rendered into modern literary English with far greater brevity, it closely suggests precisely what it purports to be—a literal translation from an ancient language. Thus, as it might seem, the author is careful to concentrate the reader's attention upon the fact that the history which he introduces here is concerned largely with his own experiences, and he reiterates the phrase, "in my days" or "in all my days," an act closely suggesting the familiar devices of Egyptian, and other ancient writers. While, however, it would be difficult to guess precisely the form of any ancient text, from which a given passage
is supposedly translated, the following sentence in English words exhibits a simple Egyptian form of constructions, quite capable of corresponding to the above translation, and, in any event, exhibiting the characteristic terseness of Egyptian writing in general. With words of general meanings, it would read nearly, as follows:

“Nephi-myself, son mother good, son father good, in-much taught learning father, wherefore; suffering many in days-my, blessings (but) many from the Lord [God] in days-my all; knowing number great, goodness God, mysteries God—this record goings in days-my, wherefore."

The word “but” is parenthesized, because common constructions could express the antithesis; either with or without the word. The word “God” is bracketed, because the name “Lord” would probably have required a determinant figure indicating “divinity.” The possessive “my” would be suffixed to the word which it governs* precisely as in Hebrew—or would be indicated by a suitable determinant following that word. Also, the word to be translated “wherefore” would fall at the end of its clause. The word “of” would be understood, as in the Hebrew, in such expressions as “son of,” “learning of,” etc., where the noun of the thing or person possessed regularly precedes the noun of the possessor—the latter standing in a sort of adjectival relation to the former. When such an idiom occurs in Hebrew, the noun of the thing possessed is said to be “constructed” with the noun of the possessor, or to stand in the “construct state” before it.

(To be Concluded)

Science

“Science on its abstract side is poetry; it is Divine Philosophy, as Milton calls it. Science is a food which nourishes not only the material but also the spiritual body of man.”—

Michael Pupin, Professor Electro-Mechanics, Columbia University, New York, in December Scribners, 1922.

*For an example of this, see in the hieroglyphic transcription of Ptah Hetep, 4th line, 1st figures, neb-i, “my lord,” where the figure of a man indicates the suffix i, “my.” This is a very common usage in Egyptian. If the speaker had been a woman, the same syllable would have been indicated by the figure of a woman, etc.