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Source: *The Journal of Egyptian Archaeology*, Vol. 2, No. 2 (Apr., 1915), pp. 61-75

Published by: [Egypt Exploration Society](#)

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THE NATURE AND DEVELOPMENT OF THE EGYPTIAN HIEROGLYPHIC WRITING

BY ALAN H. GARDINER, D.LITT.


FROM the questions which are frequently put to the Egyptologist with regard to the nature of the Egyptian hieroglyphs it would appear that popular knowledge on this subject is pretty well in the same position where the close of the eighteenth century left it. Many who are aware of the immortal discoveries which Jean-François Champollion announced to the Paris *Académie des Inscriptions* on the 27th September, 1822, still vaguely nurse the illusion that the hieroglyphs are picture-signs with fantastic allegorical meanings arbitrarily attached to them by the ancient priests; and they conceive therefore the interpretation of a hieroglyphic inscription more to resemble the unravelling of a puzzle than the translation of language by means of dictionary and grammar, the philologist's usual weapons. The fact is that the old classical tradition of Horapollon and Chaeremon, Greek writers of an uncertain date, is still alive and still colours, though indirectly and unconsciously, our use of the terms hieroglyphic and hieroglyphs. Both these writers possessed accurate information about the values of certain signs, but they were completely at sea as to the reasons *why* those signs had those particular values. Horapollon maintains, for example, that





The hawk is put for the soul, from the signification of its name; for among the Egyptians the hawk is called BAIËTH; for the word BAI is the soul, and ËTH the heart; and the heart, according to the Egyptians, is the shrine of the soul; so that in its composition the name signifies 'soul enshrined in heart.' Whence also the hawk, from its correspondence with the soul, never drinks water, but blood, by which, also, the soul is sustained¹.

The facts upon which this astounding jumble of sense and nonsense rests are very nearly correct: the soul, in Egyptian hieroglyphs, is represented by a human-headed hawk  and was called BAI; BAIËTH might well be a dialectal pronunciation of *bēg* (Coptic ⲁⲛⲉ), the word for "hawk"; *hēt* "heart" (Coptic ⲭⲏⲧ) is at once recognizable in ËTH. And yet the fate of becoming a warning example is all that could be expected for a faithful disciple of Horapollon, such as was, for example, Athanasius Kircher, the learned Jesuit who lived in the seventeenth century. In his work on the hieroglyphic texts of the Pamphilian Obelisk, Kircher has to explain the signs which we now know to spell the imperial title *Autocrator*; his translation runs as follows: "the originator of all moisture and all vegetation is Osiris, whose creative power was

¹ A. T. CORY, *The Hieroglyphics of Horapollon Nilous*, London, 1840, pp. 15-16.

brought to this kingdom by the holy Mophtha." The holy Mophtha still remains a mystery to Egyptologists!

A passage in the works of Clement of Alexandria gave a truer account of the nature of the hieroglyphic script, but was too vague and obscure to be of much service to the scholars who pinned their hopes upon the study of the Rosetta stone. The weight of tradition in favour of a figurative interpretation was so overwhelming, that it was only little by little that a succession of investigators broke this obstacle to decipherment down. It is perhaps news to many that within a few days of the public announcement of his discovery, Champollion was himself totally unaware that he held in his hand the key to all the wisdom of the Egyptians. At the beginning of September 1822 he still believed that his hieroglyphic alphabet, established with infinite pains by the comparison of various royal rings or cartouches () , had no application save for the transliteration of foreign names like those of the Ptolemies and Roman emperors; under the influence of the classical tradition he was convinced that hieroglyphic writing, save for this one purpose, was purely figurative and symbolic, and that it was free from phonetic elements. The truth dawned upon him only on the 14th September, when he received from a friend the engraving of certain inscriptions from the temple of Abu Simbel. In the last two signs of the cartouche

() he at once recognized the letter *s* () of his alphabet. Before these stood a sign () which he had reason for thinking was connected with the notion of "birth," "to be born," in Coptic *mas*. Before this, again, he noted the image of the sun () "to be pronounced *Rē* or *Rā*," as Coptic also had taught him. *Ra-mas-ses*, he read, and in the same instant it was borne in upon him that the long-sought solution of the problem was found; for here, in the name of a famous Pharaoh whose memory was preserved in many ancient writers, he found a native word of indubitable antiquity written in part phonetically, like the names of the Ptolemies and Cleopatras which he had long since deciphered, and in part ideographically, as his researches had again and again assured him must be the case¹. A few hours' study gave Champollion the further name of Tuthmōsis, another almost equally famous Pharaoh. From that day onward discovery crowded in upon discovery; and such were the astounding genius and industry of the founder of our science that before his premature death in 1832 at the early age of forty-one he was able to make out the general sense of most monumental inscriptions and the main lines of the Dynastic history lay clear before him.

The researches of three generations of scholars have built up a wide and complex structure on the foundations laid by Champollion, and we are now able to trace, with something like certainty, the origin and development of the hieroglyphic script. We can see clearly that it was a thing of rapid growth, and that, like the conventions of Egyptian art and the characteristic physiognomy of Egyptian religion, its main principles, once established, remained immutable for fully three thousand years. It is not until the beginning of the Third Dynasty that inscriptions become really frequent, but long before this period all the classes of sign which we shall have to distinguish

¹ See the admirable account of the decipherment by Fräulein HARTLEBEN: *Champollion, sein Leben und sein Werk*, vol. I, pp. 420-422.




were already fully developed and differentiated. The later Dynasties added nothing radically or essentially new, though the spelling of individual words changed greatly in the course of time, and a marked degradation set in after the close of the Eighteenth Dynasty. The Middle Kingdom is the period of the greatest consistency in spelling, and it is rightly regarded as the classical age of Egyptian orthography. The Graeco-Roman period saw a great influx of new signs, mostly due to playful combinations and ingenious theological speculation. These tendencies paved the way for the allegorical explanations offered by Horapollon and Chaeremon, who however go one step beyond the Ptolemaic priests in their total disregard of what may be termed the natural as opposed to the artificial multiplication of hieroglyphic signs.





Before attempting to trace back hieroglyphic writing to its actual birthplace it is needful to gain some comprehension of the system in its developed form, as exemplified, for instance, in a monumental inscription of the Fifth Dynasty. As a sample of hieroglyphic writing we may take the four words










which, on a tablet of King Sahurē in the Wady Magharah (peninsula of Sinai), accompany the scene of the Pharaoh grasping an Asiatic by the hair and smiting him with a club. These words, being interpreted, signify "the smiting of the Beduins of all the desert-hills." The exact sound of the Egyptian equivalent is unknown, only the consonantal skeleton *skr mntw h'swt nb* being vouchsafed to us; for intelligibility's sake we may conjecture, however, some such pronunciation as *sōqer mentheyew kha'sowwet nēbet*.

Examining these twelve hieroglyphic signs one by one we shall recognize in them the following objects: a napkin folded over, a wind-screen(?), a club, a draught-board, rippling water, a tethering-rope, a quail-chick, a hilly desert (thrice repeated), a loaf(?), and a basket. Of these, only four signs can in any way be brought into connection with the sense attributed to our four hieroglyphic words, namely the club, which is identical with that depicted in the Pharaoh's hand, and the thrice-repeated desert-sign.


These signs are good examples of our first group of signs, called PICTURE-SIGNS or IDEOGRAMS, the latter name being given to them because they are writings (γράμματα) of the forms (ἰδέα) of things. Some further examples may be given: to convey the notion of the ibis-god Thoth the Egyptians drew the picture of an ibis perched on a standard such as was carried in the priestly processions ; to indicate the meaning "head" they depicted a human head ; for "house" they outlined the ground-plan of a house .


Now note, however, that the sign  in our sample inscription differs from the rest of the signs that have been quoted, in that, for the purposes of that inscription, it signifies not a *thing*, but an *action*—the action of smiting or clubbing. But there are simpler and more explicit ways of conveying the notion of particular actions than this, as when the image of a man constructing a wall  is used to indicate the verb "to build," or two arms holding a shield and battle-axe  are used to indicate the action of fighting. *States* may be expressed in a similar manner: thus the verb "to be old" is written with the picture of an old man leaning upon a stick ; in

like manner the sign of some lotus-flowers growing out of a pool of water  serves to represent the verdure of the Inundation-season.



By writing such ideograms one after the other in the order prescribed by the spoken language, simple sentences like "Thoth is old" ( ) or "a house was built" ( ) could obviously be conveyed. Now simple as this method of writing may seem we are here, nevertheless, at some distance from the most primitive kind of picture-writing. Hieroglyphic writing, even when ideographic, is wholly dominated by the influence of language; in other words,   stands not merely for the conception of the building of a house, but also for the Egyptian words *ḳodu per* "a house is (or was) built," *ḳōd* being the verb "to build," and *per* the word for "house."



For the right understanding of the evolution of the hieroglyphic script it is essential to realize the importance of the influence of language. Let us suppose that a primitive scribe wished to communicate pictorially, quite apart from language, the notion of Thoth being old; in all probability he would have tried to represent a decrepit ibis-headed being leaning upon a stick¹. The objections to such a method of picture-writing are twofold: firstly, it makes quite an excessive demand upon the skill and ingenuity of the writer, and secondly, its results are very far from unambiguous; a spectator might just as well interpret such a picture as meaning "Thoth has a stick to lean upon," which is not at all the sense supposed to be in the mind of the writer. Clearly what was needed was some means of reducing the number and variety of all possible pictorial writings, so that every picture-sign used should have attached to it a more or less fixed conventional meaning. Language is the medium by which alone we have become able to arrange and give precision to our thoughts, and two or three hundred words have been found enough to suffice the needs of simple folk.



At the conclusion of this article I shall attempt to indicate the way in which language became associated with pictures, so as to serve for the expression of articulate ideas. For the present the fact must be taken for granted, and the reader must be content with noting its consequences. Of these perhaps the principal was the wider application given to individual signs. Take for example , the now familiar sign for old age. Pictorially regarded, this sign could strictly only indicate old age as exhibited in the person of a man; but by virtue of its association with the Egyptian word *tni* (perhaps to be vocalized *thōney*), the same sign could be used in every connection in which *tni* could be used, whether in describing the old age of a god, a man, a woman, or an animal. In other terms, the meaning "man" disappears from the connotation of the hieroglyph and the meaning "old" alone remains.



Somewhat different, but easily comprehensible, extensions of meaning may be illustrated by the following instances. The sign  represents a twig, for which the Egyptian word was *khēt* (*ht*). But this identical word has also the significations "wood" and "tree." If therefore the Egyptian scribe wished to express the notions "wood" or "tree" it sufficed him to draw the picture of the twig. Take again the picture of


¹ In Theban tomb no. 232 is a picture of the aged Rē, falcon-headed, leaning like an old man upon a stick.



the falcon-god Horus , the primary use of which was to express the idea of the god himself. But every living Pharaoh was considered as an impersonation of Horus, so that the sign  could be employed too where the Pharaoh Horus was meant, in spite of the fact that the sign represents not a man, but a bird.

This allusive employment of hieroglyphic signs, an advance under the influence of language from a more rigid pictorial use, pointed the way to yet further developments. Thus, the picture of any thing could be employed not only to suggest the name of that thing, but also to express various actions or states involving the existence of that thing. For example,  depicts an animal's ear, and served to write the word *masdger* (*msdr*) "ear," whether referring to a human ear or to that of an animal; elsewhere, however, it might be read *sōdgem* (*sdm*) "to hear," since the ear is the organ of hearing. Similarly the hieroglyph , depicting a scribe's palette, reed-pen and water-bottle, might not only represent the word *menhadg* (*mnhd*) "a writing outfit," but might alternately stand for the verb "to write" *skhai* (*sh*),¹ or for the substantives "scribe" *sakh* (*sh*) or "writing" (*sh*).

The very flexibility of the ideographic signs, as illustrated in the last paragraph, is sufficient evidence of their insufficiency, unless accompanied by other signs which could render their meaning less ambiguous. If  can mean any one of the four things "scribe's outfit," "to write," "scribe" or "writing," how could it be known, in the particular case, which of the four was meant? The eye  in Egyptian was called *yīret*; without unduly extending the principle above described, the same sign might have been used to write a full dozen different things that are done with or in some way concern the eye, such as "to see," "to look," "to stare," "to watch," "to wink," "to blink," "to weep" and even "to be blind." Clearly, if reading was to be possible at all, some method had to be found for indicating the specific meaning to be adopted in a given case.

This problem was met in a simple way, yet in a way which at first sight seems to increase rather than to diminish the ambiguity of the signs. The word for "eye" in Egyptian, as we have seen, was *yīret*; the new departure consisted in using the hieroglyph of the eye to spell words the sense of which had nothing to do with the eye, but the *sound* of which closely resembled the sound of *yīret*, the word for eye. In this way  was employed to write the verb *ir-t* "to make," which in the infinitive sounded *yīret* just like the word for eye. So used,  is no longer an ideogram or picture-sign; it has become the mere indicator of a sound, and its external appearance is a matter of complete indifference, so far as the purpose for which it was used is concerned. Signs of this kind, which are much more numerous in Egyptian writing than ideograms, are called PHONOGRAMS, because they serve to write sounds (*φωνή*).







¹ I take this opportunity of pointing out that the original consonantal value of the word "to write" was *šš'* or *sh'*, not *šš* as usually supposed. This ought to be clear from the name of the goddess of writing  "the writer" (*Pyr.* 616), as well as from the Coptic equivalents *Ⲫⲁⲓ* : *Ⲫⲁⲓ* cf. *wd'*, *ⲟⲩⲗⲁⲓ*, *šk'*, *Ⲫⲁⲓ*. However the early interchange of *š* and *s* is extremely rare, see *Zeitschrift für ägypt. Sprache*, Vol. 49 (1911), p. 22.





Now the transition of meaning that is exhibited in these phonograms is precisely the same as that found in the playful form of writing familiar among ourselves under the name of *rebus-writing*. Exactly the same principle is involved, too, in our children's game of charades. There is a point of great interest to be learnt from this comparison. Let us attempt to render in *rebus-writing* the English word *manly*. For the first syllable we might draw the picture of a little man, and for the second syllable we possibly might make shift with the representation of a bed, suggesting "to lie." The two Egyptian hieroglyphs   would thus form an easily enough recognizable equivalent of the word *man-ly*.





The point here to be emphasized is that the genius of the English language is totally opposed to the development of any elaborate system of *rebus-writing* along the lines I have described. There is indeed no difficulty in forming *rebus-groups* for such words as *manly*, *mandrake*, *manhood* or *mandate*, since *lie*, *drake*, *hood* and *date* are, all of them, notions that can be represented pictorially. But there are other words beginning with *man-* which it would be quite impossible to write in this way; how, for example, could one cope with *manna* or *manacle*? Similar difficulties arise with the words *monkey* and *mongoose*; the images of a *key* and a *goose* would meet the respective requirements of the two second syllables, but we should be quite at a loss to find any suitable equivalent for the first.





Rebus-writing has thus, in English, but a narrow field open to it. It is otherwise with the Egyptian language, because there the relation of the vowels to the consonants was different from the same relation in the Indo-European languages. In Egyptian, as in the more or less closely related Semitic languages¹, no word begins with a full vowel-sound, and, speaking in a general way, it may be said that the vocalization was a matter of quite secondary importance. The essential part of every Egyptian word was its consonantal skeleton, and variations of vocalization seldom altered the root-meaning of a word, but merely varied the nuance of meaning to be attached to it. Take the verbal stem *m + n* "to remain" or "be firm." The various parts of this verb, and its derivative substantives as well, are formed by ringing the vocalic changes on this consonantal framework. Thus *mēnu* means "remaining," *moun* "to remain"; the simple indicative tense probably sounded *emno* "remains"; *maīnu* is the word for "monument." Now cases were quoted above in which, under the influence of language, picture-signs acquired a wider and less restricted ideographic meaning than their appearance seemed strictly to permit. In a somewhat similar manner original picture-signs, on their conversion into phonograms, rapidly obtained a wider phonetic use than might have been anticipated *a priori*. We are greatly in the dark as to the real vocalization of most Egyptian words, but let us assume,

¹ In the early Semitic scripts (Moabitic, Phoenician, Aramaic, etc.) no vowels are written; the "pointing" of certain Hebrew and Arabic religious books is a later development. That the cuneiform writing possesses true syllabic signs—combinations of specific consonants with specific vowels—is a sure indication of its invention by a non-Semitic people, the Sumerians. The absence of vowel-signs in writing is not as puzzling as people are often inclined to think. If the present article shows anything, it is that the earlier scripts are *suggestive* of sound-values rather than precise and exhaustive renderings of them. Even our own alphabet, at the best of times, is far from satisfying the exacting demands of a phonetician.

























for the sake of argument, that the word for a draught-board was *mānet*, the syllable *-et* being the feminine ending. Let us further assume that the feminine participle "she who remains" was likewise pronounced *mānet*. By virtue of the principle that was expounded above in reference to  *yīret* "the eye" and *yīret* "to make," it would be perfectly natural to use the draught-board  for the writing of *mānet* "she who remains." But this word *mānet* "she who remains" was inseparably associated with all the other derivatives of the verbal stem *moun*, and it consequently came about that the sign  was used for the writing of all these as well. Neither the particular vocalization of the word for draught-board, nor its feminine ending *-et* (if the word *was* feminine), continued to possess the slightest importance, and as phonogram the sign  thus acquires the value $m+n$, whatever vocalization might temporarily serve as clothing to those consonants. Wherever the consonants $m+n$ occurred in that order, whether in the biliteral words *moun* "to remain," *emno* "remains," *mēnu* "remaining" or whether as one of several component parts in more lengthy words such as *Eymūn* "the god Amūn," *emnodg* "breast" or *mentheyew* "Beduins,"  could now be used as a simple sound-sign for $m+n$. And in precisely the same manner  became a biliteral sign for $y+r$, and was used, not only for the variously vocalized derivatives of the stem *īr* or *yr* "to make," but also as an element in the spelling of such totally unrelated words as *eyrōthet* "milk" and *Wesyīrew* "Osiris."

The great utility of a long series of BILITERAL signs, that is to say signs having as their phonetic value two consonants in a certain order (like  $m+n$), may easily be conceived¹. How much more serviceable, then, would not be a series of UNILITERAL or alphabetic signs, with which any given word could at once be translated into phonetic writing? In point of fact an alphabet was evolved simultaneously with the other kinds of phonetic sign, but such was the peculiar conservatism of Ancient Egypt, that the alphabet always remained auxiliary to the other elements in the combined ideographic and phonetic script. The origin of the alphabetic signs was closely analogous to that of the biliteral signs. The Egyptian language possessed a number of words in which the consonants all except one were so weak, so similar to a breathing or vowel, that they could be ignored just in the same way as it has been seen that vowels were always ignored. The hieroglyph  depicts a mouth, and was ideographically used to write the word meaning "mouth." This word in Egyptian was *rō'*, the terminal consonant, here indicated by a comma, probably not being sounded. On the same principle that  *mānet*, by the ignoring of the vowel and the feminine ending *-et*, gave rise to a biliteral sign $m+n$, so *rō'*, by the cancelling of the *ō* and the breathing, gave rise to the alphabetic sign *r*. The phonetic value *d* for the hand  has been recently shown to be derived from an ancient word for

¹ It is exceedingly important to observe that  $m+n$,  $y+r$ and their congeners are in no sense "syllabic" signs, as they are usually and quite wrongly called: firstly, it has been seen that  can be used in the writing of words like *emno*, *mēnu* and *emnodg*, where the *m* is in one syllable and the *n* in another; and secondly, if  were a real syllabic sign, it would have to possess some one uniform vowel wherever it occurs—at least, if we attribute to the word syllable the sense which it usually bears. The term BICONSONANTAL might perhaps be considered superior to BILITERAL to designate this class of phonogram, but is open to the objection that the "half-vowels" *i* (*y*) and *w* (*u*) would then be implied somewhat too categorically to be consonants, whereas in truth they only function as consonants, without quite being such.



hand *yad* (Hebrew יָד, Arabic يَد), which very early became obsolete¹. Now the Egyptians were never able quite to make up their minds whether *w* and *y* were consonants or vowels; so closely were they related to the vowels *u* and *i* respectively, that under certain circumstances they could be regarded as identical therewith, and could consequently be ignored in hieroglyphic writing. For this reason the word *yad* might be considered to possess only one consonant that really mattered and thus the value  = *yad* = (i)a d = d was evolved. The origin of the value *dg* (d) for the hieroglyph of the snake  is still more complex. The name of the Snake-goddess was *We'dgōet*—a name preserved in the Delta place-name Buto. Fuller spellings in which the initial consonant *w* and the breathing ' are written out occur frequently, but a very early variant  merely adds to the snake the *t* of the feminine ending and a more important-looking image of the goddess². By a process of thought not very easy for ourselves to realize, but still merely an extension of the principle involved in the creation of the alphabetic values of the mouth and the hand, there dropped out from *we'dgōet* not only the vowel *ō* and the feminine ending *-et*, but also the whole first syllable *we'* or *ye*, thus leaving high and dry the alphabetic value  = *dg* (d).







The complete alphabet of the earliest times, including one or two values which later became fused together, contained twenty-four signs, as follows:















	' (breathing)		h (fricative <i>kh</i>)
	i (like <i>y</i> or <i>ī</i>)		h (ch)
	' (a strong guttural, the Arabic ع 'ayyin)		s
	w (like <i>w</i> or <i>u</i>)		s (perhaps sharper than <i>s</i>)
	b		š (sh)
	p		k (q)
	f		k
	m		g
	n		t
	r		t (th or z)
	h (weak <i>h</i>)		d
	h (emphatic <i>h</i>)		d (dg)





¹ SETHE, *Das Wort für "Hand" im Ägyptischen*, in *Zeitschrift für ägypt. Sprache*, Vol. 50 (1912), pp. 91-99.

² See SETHE, *Zur Sage vom Sonnenauge*, p. 10 (*Untersuchungen zur Geschichte und Altertumskunde Aegyptens*, v).



Besides alphabetic and biliteral signs there was also evolved a TRILITERAL group, of which  = $h + p + r$ is a good example. This derives its value from the name of the scarabaeus or dung-beetle, which may have sounded something like *khēpror*. Naturally the number of words in which a triliteral sign might be called upon to indicate the spelling was strictly limited, and there were good chances of their being as a rule etymologically related. A few of the words in which  was employed are











 *hpr* (*khōper*) "to become,"   *Hpri* "the god Khopri,"    *hpr'it* "occurrences"; the vocalization of the last two words is unknown.














We have now discussed three varieties of phonograms, namely alphabetic, biliteral and triliteral signs; it is desirable next to say something about their use. They can either be used alone, as  *r* for the preposition *er* "towards,"  *hpr* (*khōper*) "to become"; or else in combination, like  $r + n = rn$ (*ran*) "name,"   *iriit* (vowels unknown) "what has been done." In using the biliterals and trilaterals it was found useful to have some aid to memory; so very often either whole or part of their phonetic value accompanied them in alphabetic form. Thus  is generally written for $m + n$ instead of simply , as in the words  *Imn* "the god Amūn" and   *Mntw* "the Beduins" (so in our type inscription), both of which could now be made out by the reader himself on consulting the previous paragraphs. One must beware of reading  as $m + n + n$ instead of simply $m + n$; similarly when   *hr* is written instead of  alone—this being a biliteral with the value $h + r$ —care must be taken not to read $h + (h + r) + r$. Owing to their function of completing and explaining the sound of the biliterals or trilaterals which they accompany, such alphabetic signs are called PHONETIC COMPLEMENTS.

















The combination of phonetic with ideographic signs was far more common than the use of phonograms alone. The inevitable ambiguity of purely ideographic writing was illustrated above by the case of , to which we now return. This sign, in addition to its strict pictorial sense "eye" (usually written ¹) and its phonetic value *ir*, could also be employed ideographically in the writing of "to see," "to weep," "to behold," and so forth. To prevent confusion between these various possibilities of meaning, the only remedy was to combine phonetic signs with the ideograms. Perhaps the earliest way in which this was effected was by the prefixing of a biliteral or triliteral sign to the ideogram, as when the biliteral sign of the sickle, with the value $m + '$, was prefixed to the eye in order to spell the word   *m'* "to see." This stage

¹ The stroke, originally the ideogram for unity, has the secondary function of accompanying ideograms in order to indicate that they mean precisely the thing that they represent; when the substantive in question is feminine, the sign of the feminine ending *-t* precedes. See SETHE, in *Zeitschrift für ägypt. Sprache*, Vol. 45 (1908), pp. 44-45.

has been reached also by Chinese writing, where it is particularly common¹. Hieroglyphic writing usually, however, renders the combination of phonogram and ideogram yet more clear by the addition of one or several phonetic complements, as explained in the last paragraph;   *m'* + eye + ' is therefore a commoner spelling than simply

. Several phonetic signs may sometimes be needful to indicate the whole consonantal value of a word, as in    *rm* "to weep" or    *gmh* "to behold"; in the second of these words  is the biliteral sign for *g* + *m* and  *m* is accordingly a phonetic complement. But it was not always deemed necessary to indicate the entire sound-value to be attached to an ideogram; thus when we come across the group  the owl *m* suffices to inform us that *sdm* "to hear" is meant, and not, for example, *id* "to be deaf."

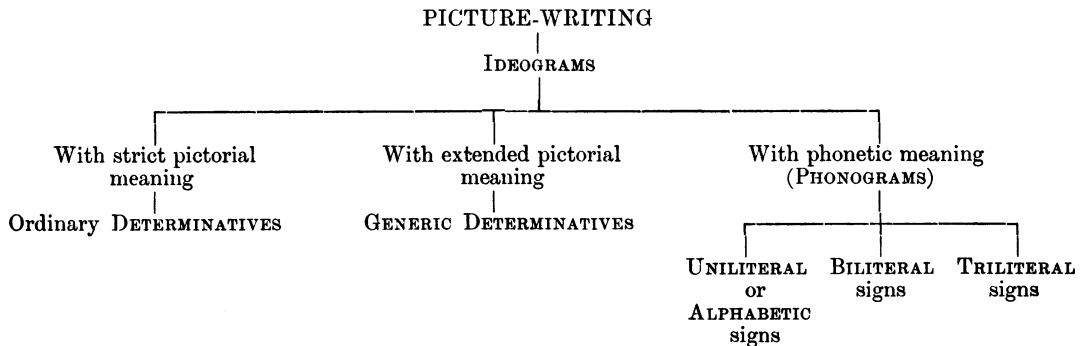
There was a distinct tendency, particularly in the case of substantives, to place the ideographic part of a word *after* its phonetic elements. The result of this has been to give the ideograms the appearance of determining the sense of the phonetic signs which precede them, whereas historically it would often be more true to say that the phonetic signs determined the sound of the ideograms. Egyptologists are accustomed to call ideograms occurring at the end of words by the name of DETERMINATIVES; thus in the word   "house"  is called a determinative, in the same way that we should speak of  as a determinative in    *rm* "to weep," and in    *gmh* "to behold," though not in   *m'* "to see," since there  is not actually at the end of the word.

In a sense all determinatives might be called generic determinatives, since with very few exceptions they are applicable to several words, and not to one alone. In practice, however, we make a distinction between the rarer ideographic signs which are apt to be used at the end of words and such common signs as  following words expressive of more or less violent action, or  following verbs of motion; these latter are termed GENERIC DETERMINATIVES. A number of such determinatives have originated through the replacing of specific, but complicated, hieroglyphs by others less precise, but demanding less skill in draughtsmanship. Thus in the Old Kingdom  and  and  are the specific determinatives of   *hw* "to strike,"   *'sh* "to reap" and   *pnk* "to bale out water" respectively; in later texts  is found as generic determinative in all three cases; cf. the spellings   and  .

We have now reviewed all the main kinds of hieroglyphic sign, and discussed









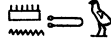



¹ It is very instructive to compare the evolution of the Egyptian hieroglyphs with that of the Chinese writing; for the latter the brilliant exposition in the *Encyclopaedia Britannica*, s.v. CHINA may be consulted. The extreme paucity of different sounds in Chinese prevented any large development of phonetic signs, and in consequence the writing remained chiefly ideographic.

the principles underlying their development. It has been found that hieroglyphic writing is ultimately derived from writing by means of pictures; the chief ramifications may be represented diagrammatically as follows:—



All the derivative forms of hieroglyphs remained concurrently in use, so that the nature of Egyptian hieroglyphic writing may be summarized as *a combination of rebus-writing with phonetic writing*.

Analysis of Type-inscription (see above, p. 63)

-  Alphabetic sign *t*, used as phonetic complement of the
-  Triliteral sign *skr*.
-  Ideogram expressing the idea of "clubbing," used as determinative.  = *skr*, "clubbing," infinitive of the verb.
-  Biliteral sign *m + n*.
-  Alphabetic sign *n*, used as phonetic complement to the above.
-  Alphabetic sign *t*.
-  Alphabetic sign *w*.  = *Mntw*, "Beduins," object of *skr*.
-  } Ideogram meaning "desert-hill" (*h's-t*), thrice repeated to express plurality (*h's-[w]t*).
-  } Alphabetic sign *t*, indicating the feminine gender.
-  Biliteral sign, *n + b*. The word *nb* (*t*) means "all," and is an adjective agreeing with the preceding word *h'swt*.

The four words together mean "the smiting of the Beduins of all the desert-hills."






In the above description¹ of the hieroglyphic system of writing as it existed throughout practically the whole of the Dynastic period more emphasis has been laid on the logical development of the signs than upon their actual historical order of evolution. Before concluding this article it will be appropriate to trace the origin of the hieroglyphs yet farther back, even to a time when writing may be said to have been non-existent.

The custom of drawing or carving the images of things on stone, wood or other materials is a practice of immemorial antiquity; and even in the earliest times one of its purposes may have been the communication of ideas or information. In a sense, therefore, picture-writing may be said to go back to a distant age almost beyond the

¹ I wish to express my especial indebtedness, in elaborating this, to the recent writings of M. Lacau and Professor Sethe.

ken of archaeology. But usually when we speak of writing, we mean something different from this; we mean the association of visible marks and signs with the sounds of articulate language, so that when these marks and signs are seen, a definite set of words or sentences is evoked in the spectator's mind.

Writing in this stricter sense begins to manifest itself towards the approach of the Dynastic period as an offshoot from pictorial art; in the earlier Predynastic age the hieroglyphic script is not yet differentiated from the great mass of figured representations. Thanks to the abundant evidence which we now possess with regard to the first Dynasties we are able to observe the birth of hieroglyphics taking place, as it were, under our very eyes. The great slate-palette of Narmer, found by Mr Quibell at Hierakonpolis, is of much value in this connection, and enables us to make probable conjectures concerning the actual course of events. On the *verso* of the palette (Fig. 4) there may be seen eight unmistakable hieroglyphs, two of them together forming the name of the king, while the other six doubtless qualify in some way the persons beside whom they stand. With these we are not much concerned, since their history already lies behind them; our main business is with the larger figures that occupy the central field. The scene of the Pharaoh clubbing a grovelling chieftain is one very familiar from the monuments of various periods; it occurs, for example, on the tablet of Sahurē at Sinai from which the hieroglyphic words above analysed were taken. There is no reason whatsoever for regarding this subject on the palette of Narmer otherwise than as a picture; for though it was intended as a record and to convey information, and though its general sense may be defined in a very few words, yet there is nothing to suggest any particular verbal description and the scene is therefore not writing as we have agreed to understand the term.

The group in the right-hand top corner is of a much more puzzling character; an ordinary, simple picture at all events it is not. There is nothing, indeed, unpictorial about the representation of the god Horus under the image of a falcon, but the human hand by which he grasps a rope introduces an element of symbolism which is alien to purely pictorial art. This symbolical note is still further emphasized by the bodiless head of a foreigner growing out of a cylindrical object; but we have not much trouble in concluding that the foreigner is a prisoner, and that the cylindrical object is meant to indicate his land. The six stalks with flowers, on the contrary, would altogether elude our comprehension, were it not that their signification is at once apparent to anyone with a slight knowledge of hieroglyphics; the veriest beginner could hardly fail to recognize in them the common word  *kho'* (*h'*) meaning a "thousand." Now there is nothing in the outward appearance of  to suggest the signification "thousand," and the existence of a word  *h'* for a water-plant or some such botanical object makes it obvious that this is a typical case of phonetic transference¹;  means "thousand" simply because the plant it depicts was called in Egyptian by a name closely resembling the Egyptian word for "thousand." The six-fold  on the palette therefore signifies "six thousand," and the sense of the whole complex group in which it occurs may be

¹ See Mr Griffith's remarks in DAVIES, *The Mastaba of Ptahhetep and Akhetetep*, Vol. I, p. 25.

thus defined: "Horus brings to the Pharaoh¹ six thousand foreigners captured within their land."

The *ensemble* which centres around the falcon-shaped Horus is supplementary, therefore, to the larger figures below it on the left, and serves to explain the circumstances under which the Pharaoh is enabled to immolate his foes. It would be wide of the mark, nevertheless, to describe this *ensemble* as an early example of writing; its size and importance prohibit that view, and moreover no particular order of words



Fig. 4. The slate-palette of Narmer, *verso*



is suggested, nor yet any specific word except *kho*' "thousand." On the other hand it cannot properly be ranked as a picture, since its method of expression is not that of imitative pictorial art, and since it incorporates one undeniable phonetic sign. It occupies a place, in fact, intermediate between picture and writing; it is neither the one nor the other, but possesses something in common with both. Now what to all intents and purposes is exactly the same subject is represented in magnificent sculptured relief on the walls of the funerary temple of Sahurê, where two rows of divinities

¹ Note that the falcon faces the Pharaoh, towards whom its action is accordingly directed.

are shown leading before the king two rows of prisoners with ropes tied to their arms and waists¹. But this sculptured scene is not complete in itself; its meaning is eked out by three lines of hieroglyphic inscription, of which the most relevant line reads as follows:


Words recited: we have given to thee all the western and the eastern deserts, together with all the nomads and all the Beduin who are in every desert.

Here we have the last step in the development towards which the group on the palette of Narmer unmistakably points: the differentiation of two complementary forms of expression, the one definitely pictorial and the other definitely writing. The combination of hieroglyphic inscriptions and pictorial representations is extremely frequent on Egyptian monuments, and is accounted for by the common origin of both and by the fact that they have not yet drifted so far apart as to be incompatible side by side with one another. Hieroglyphic writing is, after all, merely a sequence of small pictures with special meanings attached to them; and, on the other hand, Egyptian pictorial art shows analogies with the methods of writing which are both striking and significant, though they have not been as often pointed out as they deserve².


It is doubtful whether the predecessors of Narmer had ever succeeded in making any closer approach to the writing of a sentence than in the group of symbols which we have here discussed at length. Hieroglyphic writing proper was until this moment confined to the ticketing of depicted objects and the like. Contrary to the view which is ordinarily taken, it is probable that the earliest hieroglyphs (miniature pictures used to express words or parts of words) were phonetic, and not ideographic in character; the necessity for such miniature signs arose only where ordinary pictures were powerless to convey the intended meaning, that is to say where it became needful to seek the aid of the sounds of language. Regular *rebus*-groups were very possibly the first true hieroglyphs. Among the real hieroglyphs of the slate-palette of Narmer there is very little that is intelligible, but at any rate the two signs that compose the name of Narmer (or however they are to be read) are phonetic, if only for the reason that they indicate a name³. It is possible too that the signs  beside the kneeling captive are to be read as his name *Wa'shi*, the harpoon reading *wa'* (*w'*) and the lake-sign *shi* (*si*)⁴. On the *recto* of the palette there is at least one indisputable group, namely that consisting of the two hieroglyphs  over the head of the official who

¹ See BORCHARDT, *Das Grabdenkmal des Königs Sahurê*, Vol. II, Pl. 5, and the very instructive comments thereupon, *ibid.* p. 18, where the correct explanation of the group on the slate-palette is given for the first time. ERMAN (*Aeg. Gramm.*³ §16) was the first to point out the importance of this group as a landmark in the history of writing, but wrongly interprets the falcon as meaning the Pharaoh, and not quite correctly qualifies the whole as an example of early writing.

² See BORCHARDT, *op. cit.* p. 5; and in rather greater detail, DAVIES-GARDINER, *The Tomb of Amenemhêt*, p. 15.

³ It is possible the name of Narmer might mean "the.....nar-fish," in the same way as the next king was named  'Iha "the fighter." As belonging to names, however, the signs involved must clearly be phonetic.

⁴ E. Meyer (following Sethe) thinks that this group gives the names of the seventh nome of Lower Egypt, which accordingly would be the home of the chieftain in question. This view seems to me highly improbable, as it fails to explain the lake-sign, cf. SETHE, *Urkunden* I, 1, for the early writing of this nome.

marches beside the king. These have been explained as spelling *Thaty* (\overline{t} ty, later written  \overline{t} t), the word for "Vizier"; even if this extremely plausible theory were later to be disproved, it would doubtless still remain certain that \overline{t} and \overline{t} are the two alphabetic signs \overline{t} and \overline{t} , and accordingly phonetic signs.

Hieroglyphs may thus first have evolved in the form of *rebus*-writings for the purpose of writing names and the like. Meanwhile, however, the attempt was being made to narrow down the meaning of pictures by rendering them more symbolic and by dispensing with superfluous and possibly misleading detail¹. It will hardly be denied that the Horus-group on the palette better suggests the idea of an affirmation than the essentially pictorial group of the Pharaoh smiting his captive enemy; this is mainly due to its symbolic character, which by its non-obvious appearance to the eye almost compels interpretation through the medium of language. The introduction of the phonetic signs for "six thousand" greatly enhances this impression. Now let us suppose that the number of *rebus*-writings (i.e. phonetic signs) were to be increased, in order that the picture might obtain that further clearness which language alone renders possible. Very possibly it might not be feasible to incorporate these new phonograms into the group as such, and the result might be the forcible disruption of the whole into its component parts. Those parts would then assume the form of separate hieroglyphs, some phonetic, like the word for "thousand," and some ideographic, like the falcon Horus and the prisoner's head. Language would now come still more into play, and would dictate the order in which the signs were to follow one another; and very soon the whole would come to be regarded as something different from pictorial representation—as "writing" in fact,—and a new impetus would be added to the introduction of phonetic elements.

It is in some such way that we must imagine to ourselves the evolution of the hieroglyphic sentence. If this had, on the contrary, been built up out of hieroglyphic words instead of developed directly from the composite picture, it would not be easy to account for the number and the importance of the ideographic class of signs; in that case little else than *rebus*-writings (phonetic signs) might have been expected. Philologists have often insisted that in language the ultimate unit is not the word but the sentence, and a theory has been advanced that words came into existence only through the disintegration of sentences. This view is curiously parallel to the hypothesis here put forward concerning the origin of writing; while it is not denied that the earliest hieroglyphs may have been *rebus*-writings for the names of persons or things, the principal source of hieroglyphic writing, as a vehicle of literary expression, has been traced back to the complex scenes in which the Egyptians sought to record their actions.

¹ See too the similar pictures on other slate-palettes, *Proc. S. B. A.* Vol. 22 (May 1900), Pl. 5, opposite p. 138; (June 1900), plate opposite p. 270.