

Ancient Egyptian Hieroglyphics and the dawn of writing



The first attempt to visualize speech involved the use of marks which stood for a whole word or concept. Such symbols are usually called logograms, literally word marks. Since concept signs can be iconic or arbitrary, I prefer to use the term, ideogram, to refer to an iconic word sign and reserve logogram for arbitrary word signs. The problem is that most logograms began as ideograms. For instance, our numbers 1, 2, and 3 began as tally marks similar to the Roman numerals I, II, and III. Since only a fraction of the population that uses the numbers, recognizes what the shapes originally represented, they are properly classified as arbitrary logograms.

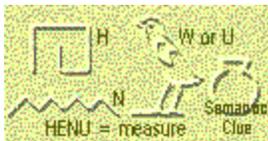
Sound signs have a similar problem. Only a fraction of the population recognizes what the letters of the alphabet originally represented, so they must be classified as arbitrary. This is not possible with hieroglyphic sound signs since they still look like their reference category.

 **Mmouri (owl)** Can you see how the M shape could have been derived from the image of the owl? Check out the [close up](#).

Symbols that in some way resemble the word or concept can then be referred to as [pictograms](#) and [ideograms](#). A picture of an eye used to refer to an eye would be a pictogram. The same picture used to refer to the concept "sight" would be an ideogram. One cannot say that sight resembles an eye but there is an obvious connection. In ancient times a picture of an eye was also used to refer to the concept "beauty." A similar link can be found in today's speech as when a young woman is described as a "looker" or an "eye full." ¹



If an eye was used to refer to the sound /ai/, it would be a phonogram.¹ The Egyptians used this symbol in all three ways. If the scribe was clever enough, the symbol could be used all three ways at the same time.



For some scholars, writing began when a picture was used to stand for a word or concept. For others, writing began when the picture or some other sign was used to stand for a syllable. For these scholars, writing did not begin until people started stringing together sound signs. Written communication that did not use phonograms, was a proto-writing system. (See I.A. Gelb)

The first sound signs were usually pictures and the first writing systems were a little like the game, "Pictionary". The task in Pictionary is to see which team can convey a message to their partner the

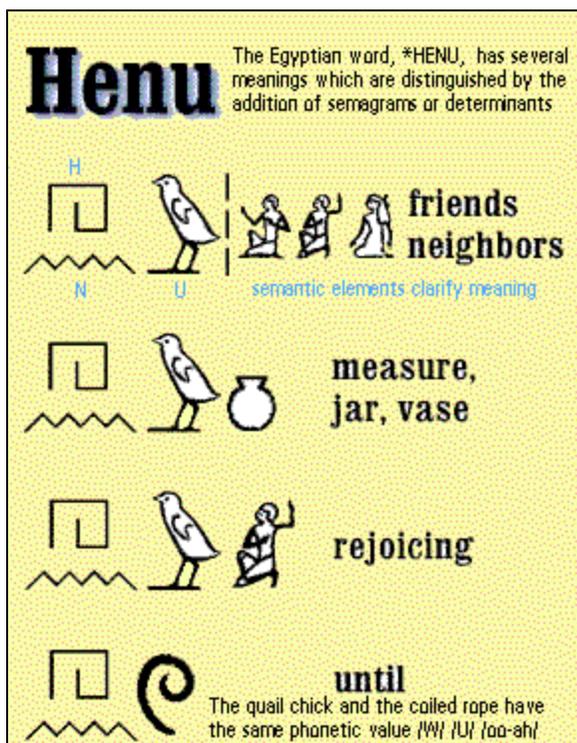
quickest using only pictorial prompts. The rules of the game preclude speaking or writing other than picture writing. The game demonstrates just how difficult it is to communicate with precision using pictures alone. Even simple pictures have dozens of possible interpretations.

Hieroglyphics was the most successful picture writing system. Egyptian hieroglyphics used pictures in at least three different ways. Only one of the ways resembled *Pictionary*. The pictures used to terminate a word, called determinants, identified a semantic category. A stick might be used to indicate that the reference of the word was made of wood, a scroll might be used to indicate that the reference of the word was rather abstract. The initial pictures in a word were sound signs (or phonograms). They indicated an object whose name began with the appropriate sound. In other words, the initial pictures were letters with a very effective built in mnemonic.

Hieroglyphics is basically phonographic writing with a pictorial prompt. Since most of the work is being done by the sound signs, it is probably inappropriate to call it 'picture writing.'²

Non-pictorial logograms were used as far back as 9,000 years ago. Completely arbitrary signs, e.g., markers or tokens for livestock and grain, were used very early by the Sumerians and may have been a precursor to the development of writing which is dated at around 3200 b.c. in the area which is now part of present day Iraq. There was trade between ancient Egypt and ancient Babylon. 4500 year old cylinder seals have been found at some Egyptian burial sites. During the first dynasty, Egyptian scribes would probably had some knowledge of cuneiform. This led some scholars to believe that the Egyptians got the concept of writing from the Sumerians. However, recent discoveries of hieroglyphic symbols being used to mark objects found at grave sites dated around 4000 b.c. suggests that the Egyptians may have developed the idea first.

The breakthrough came when a picture (or mark) was phoneticized and used to stand, not for the thing pictured, but for an associated sound. If a picture of a [bee](#) and a leaf stood for the sounds /bee/ and /leef/, they could be combined using a rebus principle to create a new word, /bee-leef/ or *belief. Many scholars believe that writing developed from such visual puns.



The next step in the development of a practical writing system was achieved when a symbol such as a boot was used to stand for its initial sound, /b/ or initial syllable, /boo/ in English. This is called the acrophonic principle. As early as 3000 b.c. (perhaps as early as 4,000 b.c.), the Egyptians developed a set of pictures of familiar objects which were used as signs (or symbols) for the initial sound in their names. Hieroglyphics counts as a writing system because it strings together phonograms. However, it also uses semagrams or determinants to clarify the intended meaning (see Fig. 1). Pictures are used in several [different ways](#) and those unfamiliar with the structure of this writing system could not always tell where the phonograms (or sound signs) stopped and the determinants (or meaning signs) started.

The Egyptian language, which was to a large extent monosyllabic, contained many homophones such as *see and *sea in English.

The addition of "pictionary" clues reduces the number of homonyms

Figure 1. HNU in Hieroglyphics

The fact that vowels were generally not written also confused words that were pronounced differently. The consonants "HT" in English confuse *hit, *hat, *hot, *hoot, *hut, ... However, we could distinguish these vowel-less combinations if semagrams or determinants were added.

- HT plus a ball bat = h i t
- HT  plus an owl = h _ _ t
- HT plus a house = h _ t
- HT plus a fire = h _ _ (answers)

The fourth HT allows for some ambiguity since it would not distinguish *heat and *hot.

In Fig. 1, determinants are used to distinguish several meanings of **HNU**. Today, the three consonants are usually phoneticized as /hen-noo/ since no one knows precisely how ancient Egyptian was pronounced. (For the best approximation, see Loprieno, 1995 and Albright, 196?.)

In an earlier paper, the author suggested that the structure of Egyptian could be used as the basis of a new form of the pictionary game. Initially, English consonants could be used in addition to simple pictures. Later, the consonants would have to be indicated with pictures.

The use of sound signs makes the game move so quickly that the object of the game would have to be changed from identifying concepts (e.g. house) to identifying propositions (e.g., "The big house is on fire.").

[ [more on Egyptian writing and hieroglyphics](#)]

Decipherment

Thomas Young (1773-1829) Fellow of the Royal Society. Physicist, linguist, known for wave theory of light.

Rosetta Stone, 196 B.C. (discovered in 1799) Greek text indicated that all three texts were equivalent in meaning (but not word for word). Names in demotic seemed to be written alphabetically. Most scholars thought that the demotic script was always alphabetic and that the hieroglyphics was wholly non-phonemic. They did not see demotic as little more than a shorthand version of pictorial hieroglyphics. Young started working on the stone in 1814 and sent a letter to Champollion in 1819. He determined that demotic was a mix. Young guessed that the names in the cartouches were written alphabetically: e.g., p, t, m. for Ptolmy. Young's guesses and hypotheses were about 80% correct.

Jean Francois Champollion (1790-1832) first believed that hieroglyphics were entirely non-phonemic. He received a letter from Young in 1819 that argued for a phonemic interpretation but ignored it. In 1822 he received a copy of the inscription on the Philae Obelisk, now in Britain, which contained the cartouches for both Ptolmy and Cleopatra. He also received a copy of the inscription on the Rosetta stone. In 1823 he made his breakthrough. Champollion went on to check Young's hypotheses and his own against several other cartouches. He received most of the credit for the breakthrough because he could predict and verify. His hypotheses were about 96% correct compared to Young's 80%.

Notes

1. The Egyptian hieroglyphic for eye is associated with the Semitic 'ayin. The exact pronunciation of ancient Egyptian is not known but it wasn't /ai/. One of the alternative spellings "eye" in middle Egyptian was "an". There would seem to be some connection between 'ayin which means "eye" in Semitic, which was originally represented by an [o] shape, and "an". The hieroglyphic [o] shape referred to the pupil and was written "an". The Egyptian phonogram or sound sign that was more or less equivalent to 'ayin looked like an arm. The Greeks turned the consonant or semi-vowel 'ayin into the vowel omicron, perhaps because their word for eye was [Greek] ops, ophthalmos[Latin]okulos, the source of our modern day "ophthalmic" and "ocular."

2. A similar argument has been made against calling Chinese writing logographic since most of the logograms contain considerable phonological information. (See DeFrancis)

Bibliography

h _ _ t **answers:** hit, hoot, hut, hot or heat



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