

## AGE OF DECIPHERMENT

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Sidewalk blocks, tombstones, mottoes carved in the stone facing of city halls. What do these things say about us? Someday these wrought mineral objects may be the only voices speaking our minds to posterity.

Sidewalk blocks speak cryptically but clearly. "Mozart lives in 72," says one. Many others say "WPA". How is an epigrapher of the distant future to construe these marks? Even today the letters WPA may represent a decipherment problem for persons of under forty years of age--persons to whom the Works Progress Administration and the 1930's depression are history book items.

Tombstones say a great deal more about us. The grave markers of our admired or prosperous dead often bear short biographies. Upon deciphering these biographical inscriptions archeologists of a future millenium will have good grounds for guessing what activities and values we cherished.

As for mottoes carved into public buildings, these may give us away completely. "Religion, morality, and knowledge being necessary to good government and the happiness of mankind, schools and the means of education shall forever be encouraged." So it says in the Michigan Constitution (Article VIII), and so it is engraved in sandstone over the entrance to Angell Hall at the University of Michigan. It is a comfort that we have put our best foot forward to posterity.

The marks that are passing before the reader's eyes right now will soon have vanished. Most written things will disappear. Only objects that resist corrosion and deformation will bear evidence about us. To the extent that we are to speak to future millenia in words, we may have to rely on our stone inscriptions. Such at least is the case with our own

forebears. Those who wrote in stone or clay tablets still have a voice by which to speak or whisper to us.

But the voice that emanates from the stone is invariably an archaic or foreign one. Inscriptions, priceless evidence about the past, have had to be deciphered. Some scholar had to be the first to make sense out of nonsense, to find meaning in words for which almost no clues were given.

The golden age of decipherment may have been the first half of the nineteenth century, when the ancient tongues of the Near East were loosened. The age may have begun with the discovery of the Rosetta Stone in 1799. Bonaparte in Egypt turned up a stone slab from the silt of the Nile delta, a cleanly faced basalt tablet that bore clear writing in three scripts. It was the first multilingual inscription ever found to shed light on the peculiar hieroglyphs used in ancient Egypt. The stone bore a Greek text and two Egyptian texts, one in Egyptian demotic script and the other in Egyptian hieroglyphs. We discuss briefly this classic exercise in decipherment.

Napoleon's fleet surrendered in 1801, and the Rosetta Stone went to England with Lord Nelson. But it was a Frenchman who broke the code and read the Egyptian writing. If there is one person who embodies the science of decipherment, it is Jean-François Champollion. In 1801, when he was eleven years old, Champollion announced that he would one day read the hieroglyphs. Six years later he produced a work of scholarship, a study of place names in the Coptic tongue. Coptic is a language descended from ancient Egyptian but written only in the Greek alphabet. Today Coptic remains as the written language of the Coptic (Egyptian Christian) church.

Scholarship prior to Champollion's time had developed some facts and some suppositions about the hieroglyphs. It was thought that the writing was basically logographic, that is, that the hieroglyphic characters (logograms) symbolized whole words and were not, as in our alphabetic writing system, the spelling out of spoken sounds. (\$ and 4 are logographic ele-

ments in our own writing system.) But it was also suspected that the hieroglyphs were not entirely logographic. If the hieroglyphs were altogether non-phonetic, that is, if there were no way of spelling out sounds, it would have been difficult to bring foreign words into the language. Supposedly the Egyptians would have devised a way of spelling out at least the sounds of loan words. So there must be some phonetic element, some sound signs (what we call letters), in the script. But it was not known whether the hieroglyphs were used mainly phonetically (for spelling out sounds) or mainly as symbols of words.

Champollion's great achievement was to discover that the hieroglyphs stood both for words or ideas and for sounds. By finding sets of hieroglyphs (on the Rosetta Stone and others) for names like Cleopatra, Ptolemy, and Alexander, he observed that hieroglyphs common to these names were playing the role of phonemes, sound signs. With patient scholarship Champollion was at length able to pronounce the hieroglyphic texts.

Now Champollion's knowledge of Coptic was to play its role. He had mastered that language in spite of the notion, common among his elders, that Greek-spelled Coptic would never be any use in understanding the hieroglyphs. Scholars thought that there could be no way to connect the sounds of known Coptic words with the hieroglyphic logograms, because the latter (as pictures of words rather than the spellings of sounds) would remain forever unpronounceable. Champollion's ability to pronounce ancient Egyptian was now to be the key to the decipherment. With the sounds of ancient Egyptian words in his ears, Champollion matched the hieroglyphs with similar sounding Coptic words that might be related to them. He at last had a foundation for surmising the meanings of a great many hieroglyphic texts.

Two important principles or familiar patterns of decipherment are implied in this discussion of Champollion and the hieroglyphs. One important factor in Champollion's success is the role that the sound of spoken Egyptian played in the decipherment. It is important to remember that a

writing system and a spoken language have no logical connection. If one were to come across a language that was spoken but not written, one could impose upon it any sort of written symbols one wished. Champollion showed that the hieroglyphs were not just so many arbitrary marks standing for words but that they stood for spoken sounds. When this was recognized the decipherment became possible.

Another key fact is the relationship of the unknown hieroglyphic writing to a known and pronounceable language, Coptic. If Coptic had already been a dead language, that is, if no Egyptian cleric had been available to teach Europeans the sounds and meaning of Coptic words, the meaning of the hieroglyphs might well have remained obscure. It was necessary to be able to relate the sounds of ancient Egyptian with the meaningful sounds of a known language, one that was not too distantly related to ancient Egyptian.

Champollion's work does not by any means typify all decipherments. But we need not develop further the theoretical structure of decipherment problems here, except to suggest that a kind of theory of decipherment exists.

Several University of Michigan scholars are today engaged in the challenge of decipherment. As an indication of the diversity of the field and of the University of Michigan faculty we list six faculty members.

David N. Freedman is a Professor of Biblical Studies and editor of the journal, Biblical Archaeologist. He has published his work on 4,300 year-old tablets recovered from the ancient city of Elba, at Tell Mardikh in northeast Syria.

Charles R. Krahmalkov, Professor of Near East Studies has proposed decipherments of Punic rhymes from massive stone inscriptions found at the site of a Carthaginian temple.

Joyce Marcus, Assistant Professor of Anthropology, has done significant work in the area of decipherment of Mayan glyphs. (See the following article for more details).

George E. Mendenhall, Professor of Ancient and Biblical Studies, is bringing new ideas to the search for the origins of the alphabet with his decipherment of an inscription on a spindle whorl found in Catal Huyuk, a site in southern Turkey.

Herbert H. Paper, Linguistics Professor, is pursuing a systematic study of Judeo-Persian texts, for often some of the early Persian literature was only written in Judeo-Persian.

Claiborne Thompson, Chairman of the Department of Germanic Languages and Literatures, is studying runic inscriptions on monuments to the dead which are found in the Uppland area of Sweden.

These Egyptian hieroglyphs appear in a wall painting dating from the thirteenth century B.C. From top to bottom they read "Aset, great female, mother of the god, mistress of heaven." The groups of hieroglyphs contain both phonetic signs, indicating pronunciation, and signs that stand for ideas (logograms). The throne at the top stands for the sounds s t. The semicircle (bread loaf) reinforces the sound t and also suggests the idea of femininity. The egg means "female name," and the seated figure "goddess." All four are read Aset.

The swallow indicates the idea "great" and stands for the sounds w r; the mouth sign reinforces r, and the bread loaf, again, adds t and the idea of femininity: weret, "great female."

The vulture is a rebus for "mother" and stands for the sounds m t (t reinforced by the bread loaf); the flag denotes "deity" and the sounds n t r: mut netcher, "mother of the god."

The large basket sign, n b, means "master," the bread loaf adding t and femininity; the bar at the bottom is the sky or "heaven" and suggests p t: nebet pet, "mistress of heaven."

