THE RIDDLE OF THE LABYRINTH

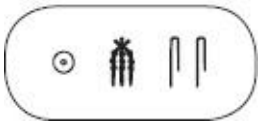
THE QUEST TO CRACK AN ANCIENT CODE

BY MARGALIT FOX

Sound-Values of Glyphs in the Ptolemy Cartouche

Symbol		Sound-Value
	=	"p"
	=	"t"
	=	"o"
	=	"l"
	=	"m"
	=	"e"
	=	"s"

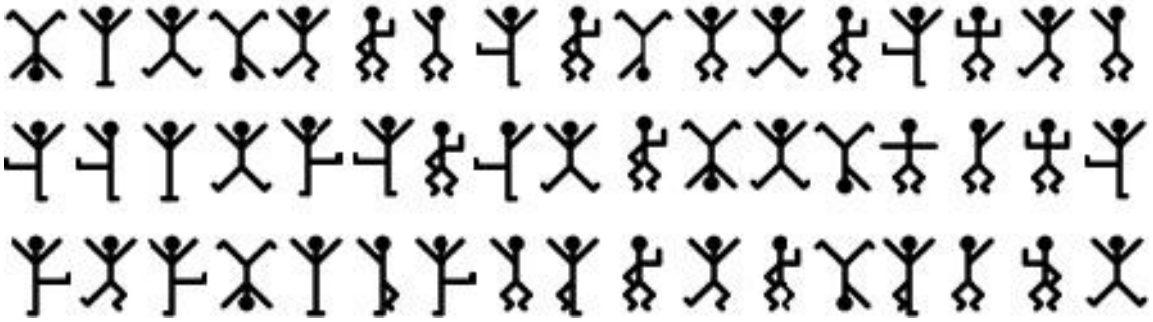
Champollion's Cartouche Study



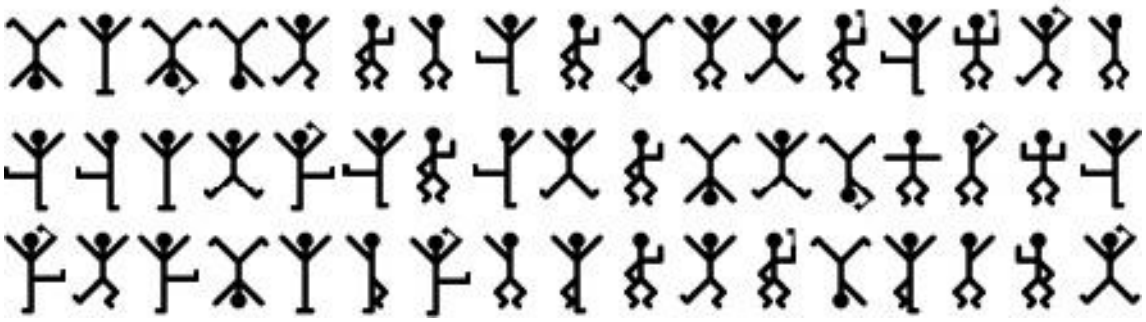
An Example of Boustrophedon Writing

A twenty-first-century rendering of lines from Homer's *Iliad*, written as boustrophedon by Professor Thomas G. Palaima of the University of Texas, in the version of the Greek alphabet used on the island of Euboea in the sixth century B.C. The Euboeans were the great colonizing power of the period, and they carried this version of the alphabet to Italy, where it was adopted first by the Etruscans and later by the Romans, from whom our present-day Roman alphabet is descended.

Dancing Men



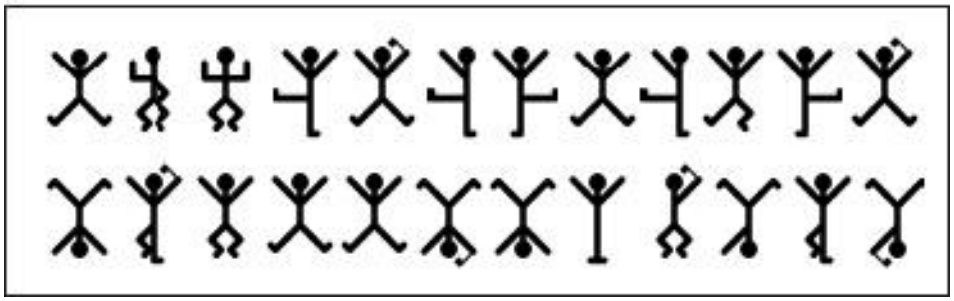
Sir Arthur Conan Doyle's Dancing Men



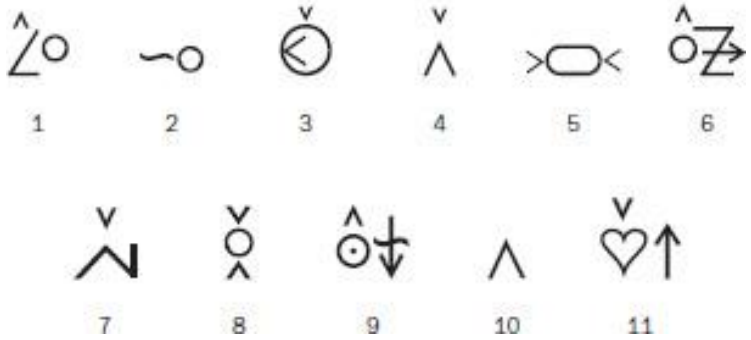
Base-10 System

1	=	I
10	=	—
100	=	○
1,000	=	⌖
10,000	=	⌖

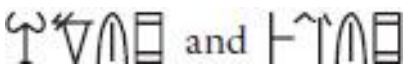
“The Adventure of the Dancing Men”



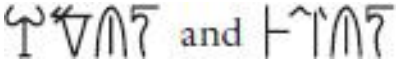
Eleven Words in Blissymbolics



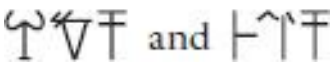
Nouns in Case I



Nouns in Case II



Nouns in Case III



Three-Character Syllabary

We can drive Kober's point home graphically by creating a three-character syllabary with which to write them; I have arbitrarily chosen ❶, ❷, and ❸ as the characters in our tiny syllabic script. The three syllables will now be rendered this way: "ser" = ❶; "vu" = ❷; "vo" = ❸.

Rewritten in the syllabic script, our little paradigm looks like this:

Case I: ❶ ❷
Case II: ❶ ❷
Case III: ❶ ❸

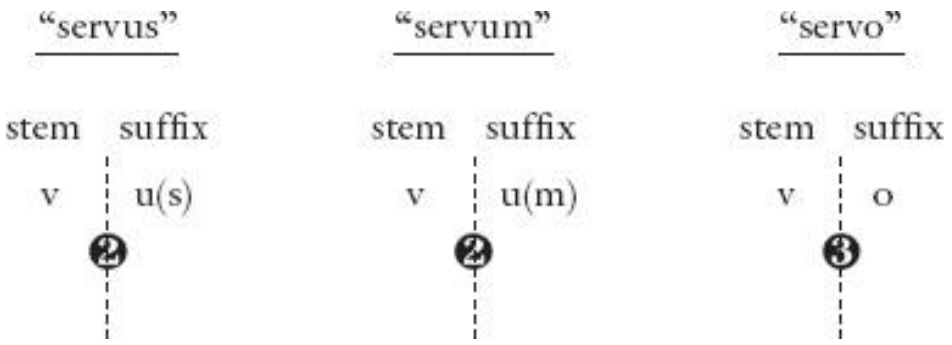
Notice what happens in the switch from alphabet to syllabary. We see, correctly, that the three words share their initial syllable, represented by ❶. But we also see—wrongly—that the second syllable of Cases I and II is identical, written with ❷ each time. Now look at the paradigms side by side:

Written with an Alphabet		Written with a Syllabary		
Case I:	serv-us	Case I:	❶❷ =	ser-vu(s)
Case II:	serv-um	Case II:	❶❷ =	ser-vu(m)
Case III:	serv-o	Case III:	❶❸ =	ser-vo

With an alphabet, the difference between *servus* and *servum* is plain. With a syllabary, it is completely obscured: Both are written ❶ ❷.

Our syllabary deceives us in other ways. The alphabet tells us that in all three words, the second syllable starts with the same consonant: "**v**us," "**v**um," "**v**o." The syllabary lies about this fact. Now two different characters, ❷ and ❸, are used to write that syllable, depending on the word's case. This "spelling change" from ❷ to ❸ is crucial: ❷ and ❸ are the "bridging" characters, representing *both* the last consonant of the stem and the first vowel of the suffix. The character changes because the vowel of the suffix ("v**u**s" and "v**u**m" in Cases I and II; "v**o**" in Case III) has changed.

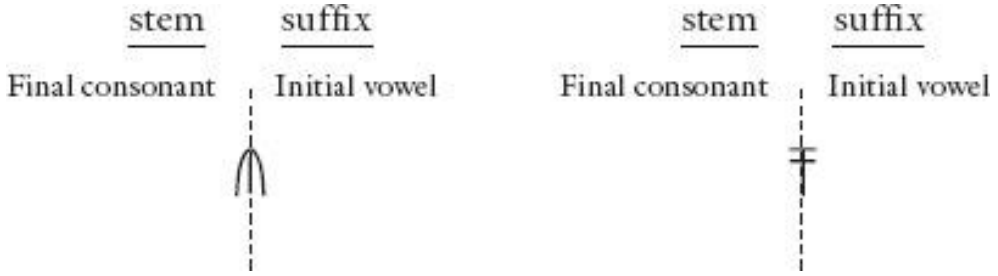
To visualize the role of bridging characters in a "science of graphics," one must mentally split them down the middle, like the contested baby in the King Solomon story, with each "half" claimed by a different syllable:



This, Kober realized, was precisely what caused the change in the third syllable of the nouns in her paradigm, repeated here:

	Noun 1	Noun 2	Noun 3	Noun 4
Case I:				—
Case II:			—	
Case III:				

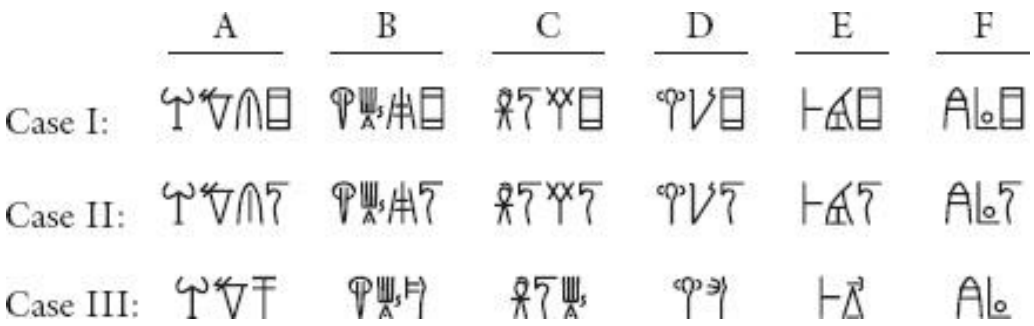
It was as though these "bridging" characters, too, had been split down the middle, incorporating the end of the stem and the beginning of the suffix in equal measure. This accounted for the change in spelling from to in Case III:



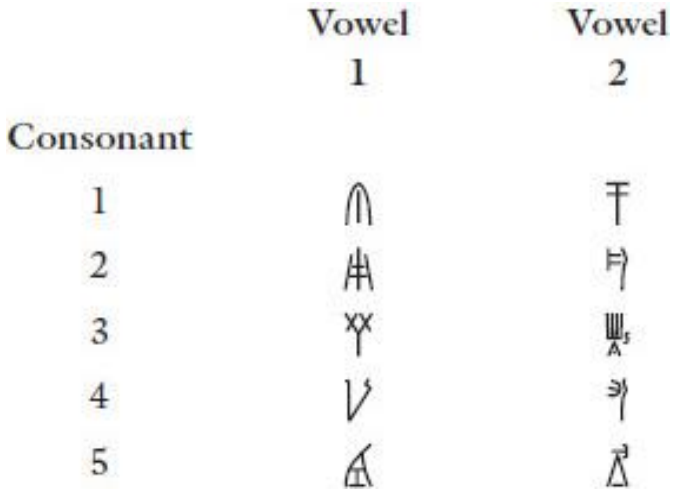
This one-character bridge may look like a small thing. But in isolating its function, Kober had taken an immense step forward. "If this interpretation is correct," she wrote in her 1946 paper, "we have in our hands a means for finding out how some of the signs of the Linear Class B script are related to one another." In the example above, for instance, we can tell instantly that  and  share a consonant but have different vowels, just as the Latin syllables "vum" and "vo" do.

With a foot in one syllable and another in the next, bridging characters were the linchpins of Minoan words. By identifying and describing them, Kober had found a way of establishing the *relative* relationships among the characters of the script without having to know any of their actual sound-values. And on this linchpin the decipherment would turn, although she would not live to see it.

Kober's Triplets



Kober's Grid: "Beginning of a Tentative Phonetic Pattern"



Each symbol in the grid is one of Kober's "bridging" characters, and each character's position marks, so to speak, its phonetic coordinates. Reading across Row 1, for instance, we see that  and  start with the same consonant but end in different vowels—whatever those consonants and vowels might be. Reading down Column 1 tells us that  ,  ,  ,  , and start with different consonants but end in the same vowel. Though the specific sound-values remained unknown, Kober's grid made it possible to show the *relative* relationships among these ten characters. A comparable grid for English—and here the sound-values have been assigned arbitrarily—might look like this:

Consonant	Vowel 1	Vowel 2
1	ba	be
2	da	de
3	fa	fe
4	ka	ke
5	ma	me

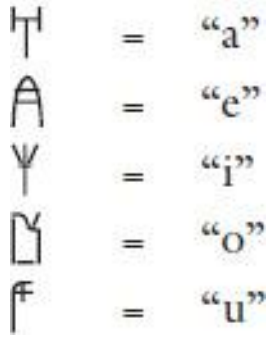
Ventris's Grid

Ventris's first grid. His proposed sound-values for consonants run down the leftmost column. (The two-letter designations, like "ag," "az," and "eg," beside each character should be ignored: They are not sound-values but rather a shorthand key Ventris used to classify the symbols.)

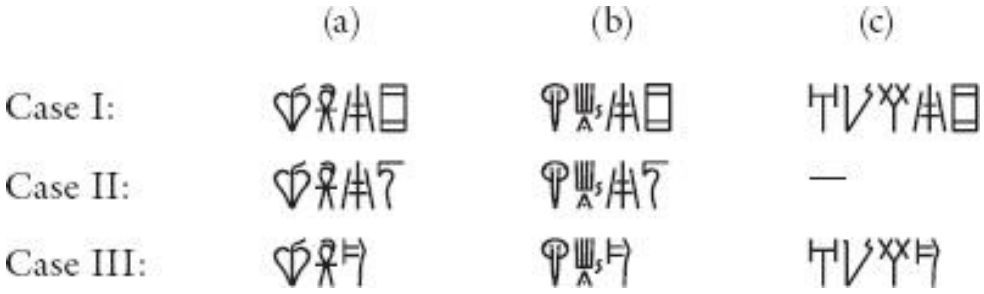
Bennett's Signary

The syllabic signs of Linear B, with characters of similar shape grouped together.

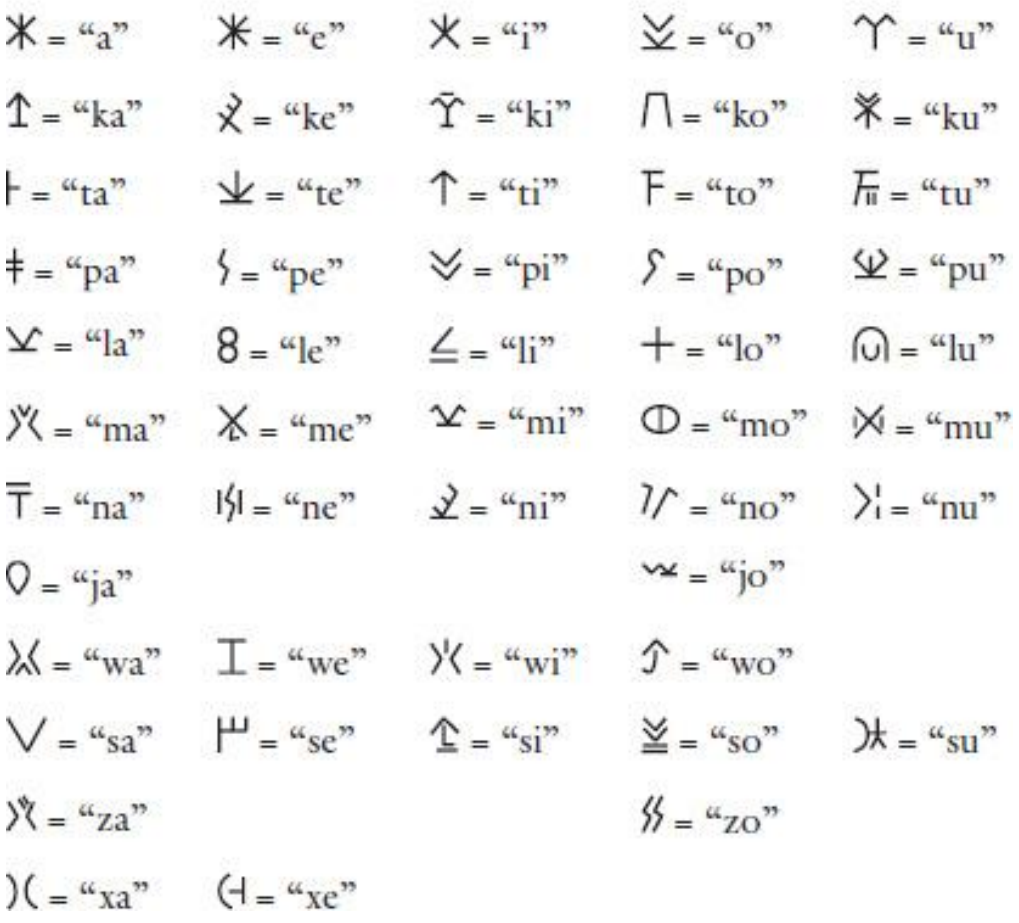
Ventris's Syllabary



Kober's Knossos Triplets



The Cypriot Syllabary



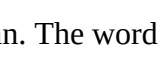
Ventris's Third Grid

Ventris's third grid. The sign 𐀅, "na," placed at the intersection of Row C8 and Column V5 and indicated by an arrow, provided one of the first important clues to names inscribed on the tablets.

He started by unpacking 𐀀𐀁𐀂𐀃, which he had previously rejected as "Amnisos," the Classical Greek name of the port of Knossos. From his analysis of the "pure vowel" signs, he was reasonably certain that 𐀀 stood for "a." He next turned to the Cypriot sign 𐠅, "na." If the Linear B sign 𐀅 had the same value, then he could insert "na" into the grid where Row C8 and Column V5 intersected—in the cell whose "phonetic coordinates" were the consonant "n" and the vowel

"a." (On his grid, Ventris draws the character as  , an acceptable variant form.) Simplified, the relevant portion of his grid now looked like this:

	V1 = i?	V2	V3	V4	V5 = a?
C6 = t?					
C7					
C8 = n?					
C9 = f?					

Turning again to the Cypriot syllabary, Ventris tried assigning the sound-value "ti" to the Linear B sign , analogous to Cypriot . As it happened, he had already placed exactly where it ought to be: at the intersection of C6 ("t") and V1 ("i"). Now the grid's web of interdependencies truly began to pay dividends: His correct placement of automatically gave Ventris the value for ("ni") in the same column. The word  so far was pronounced like this:

a- _____- ni-_____

To Ventris, the word looked more and more like "aminiso," a syllabic spelling of "Amnisos." It was one of the place-names that had seemed to suggest itself when he first tried the experiment in February. If that were the case, then the word's second character, , was "mi." (Ventris's initial placement of that sign as "fi" on the grid was incorrect.) Likewise, was "so."

Reading as as "a-mi-ni-so" immediately gave Ventris two more characters to plug into the grid. Those in turn gave him values for all the consonants in Row 7 ("s") and Row 9 ("m"), and for all the vowels in Column 2 ("o"):

	V1 = i	V2 = o	V3	V4	V5 = a
C6 = t					
C7 = s					
C8 = n					
C9 = m					

He now turned to  , another "place-name" he had toyed with in February. From his revised grid, he knew that the third syllable was "so":

_____-_____-so.

He had already placed the symbol  at Row C8, Column V2, which gave it the value "no." If this were correct, the word now looked like this:

_____- no-so.

The incomplete word suggested a Cretan place-name—and not just any place-name but the single most important one on the island: Knossos, spelled syllabically as "ko-no-so." This let Ventris position  correctly on the grid, where "k" and "o" meet:

	V1 = i	V2 = o	V3	V4	V5 = a
C6 = t					
C7 = s					
C8 = n					
C9 = m					
C10 = k					

Blegen's Tablet