

How the Alphabet Was Born from Hieroglyphs

By Orly Goldwasser

(A fascinating account of the origin of the aleph-bet, from Egyptian Hieroglyphics to the first sound-pictures, Hebrew, and now all languages. This article lends credibility to Frank T. Seekins' book, *Hebrew Word Pictures: How does the Hebrew Alphabet Reveal Prophetic Truths?* –Peter)



To the Asiatics, as they were called, the lush Nile Delta, with its open marshlands rich with fish and fowl, was a veritable Garden of Eden. From earliest times, Canaanites and other Asiatics would come and settle here. Indeed, this is the background of the Biblical story of the famine in Canaan that led to Jacob's descent into Egypt ([Genesis 46:1–7](#)).

By the beginning of the Egyptian Middle Kingdom (a few years after 2000 B.C.E.), the pressure of immigrants on the eastern Delta was so strong that the Egyptian authorities built a series of forts at strategic points to “repel the Asiatics,” as the story of Sinuhe tells us.¹

More than a century later, however, Egyptian policy toward the Asiatics changed. Instead of trying to prevent them from coming in, the Egyptians cultivated close relations with strong Canaanite city-states on the Mediterranean coast and allowed select Asiatic populations to settle in the eastern Delta. The last of the great pharaohs of the XIIth Dynasty, Amenemhet III (c. 1853–1808 B.C.E.) and Amenemhet IV (c. 1808–1799 B.C.E.), even established a new town for them.



The XIIth Dynasty was followed by the much weaker XIIIth Dynasty. Thousands of immigrants from Syria, Lebanon and Canaan then flooded into the eastern Delta, creating the large Canaanite settlement that would become Avaris (modern Tell el-Daba), the capital of the famous Hyksos. The Hyksos were Canaanites who seized power from the Egyptian pharaohs and ruled all Egypt for more than a hundred years (c. 1638–1530 B.C.E.).



But before this, at the end of the XIIth Dynasty during the reigns of Amenemhet III and Amenemhet IV, Egypt was at the height of its power. A lively trade was conducted with Nubia to the south. Imports from the Levant entered Egypt by land and sea. Gold and precious stones were quarried in the eastern desert. And a large-scale enterprise was regularly conducted to search for turquoise in the high mountains of southern Sinai, at a site today called Serabit el-Khadem.

On this mountain deep in the Sinai desert, prey to merciless winds and scorching heat, are the remains of an ancient Egyptian temple to the goddess Hathor, “The Mistress of Turquoise.” Founded by Sesostris I, the second king of the XIIth Dynasty (c. 1953–1908 B.C.E.), the temple continued in existence, with some interruptions, until the end of the New Kingdom—for about 800 years.

Building on the work of Sesostris I, pharaohs Amenemhet III and Amenemhet IV exploited Serabit’s rich turquoise mines. The precious blue stone was a much-sought-after luxury item in royal circles. No fewer than 28 expeditions to the Serabit turquoise mines are recorded during the reign of Amenemhet III alone.



To ensure the blessing of the gods, the earlier temple was dramatically enlarged by Amenemhet III and Amenemhet IV. Shrines and numerous commemorative stelae with hieroglyphic inscriptions were erected on the path leading to the temple, especially honoring Hathor, the goddess of turquoise.

Where did all the people who engraved these inscriptions come from? Most were probably from the Delta. The turquoise expeditions to Serabit brought together high officials, scribes, priests, architects, physicians, magicians, scorpion charmers, interpreters, caravan leaders, donkey drivers, miners, builders, soldiers and sailors.



And many members of the expeditions left inscriptions in the temple precinct. Some contain only a name or a drawing. All sought the blessing of the gods for success in their dangerous enterprise—as well as for a safe journey home. These records also tell us of the hundreds of miners and stone workers active during the mining seasons, as well as those who were engaged in the building projects at the temple.

Were these miners and workmen Egyptian? Canaanite? Both?



Egyptian society at this time was relatively tolerant, so foreigners were quickly accepted and integrated into Egyptian society, as long as they were not political enemies of the state. Some high officials who left inscriptions at the Serabit temple present themselves as Egyptians, yet they also mention that they are Asiatic in origin or have an Asiatic mother. Despite this ancestry, they consider themselves Egyptian. Only Asiatics who came from outside Egypt are identified as such. Canaanites from Egypt who arrived with the Egyptian expeditions from the Delta were not labeled Canaanites in the inscriptions; they are simply regarded as Egyptians.

The expedition lists at Serabit also contain the names of many “interpreters.” The presence of these dragomans is strong evidence that some language barrier must have existed. The hundreds of recorded donkeys that served as pack animals were probably driven by Asiatic caravan experts, who would be able to direct turquoise shipments back to Egypt. And no doubt Asiatic soldiers in Egyptian service escorted these caravans. The bottom line: There were surely many more Canaanites at Serabit than are listed as such in the hieroglyphic inscriptions at the site.

One final note: Nowhere in the many inscriptions at the site is there a mention of slaves. Canaanites, yes; slaves, no.

It was here at Serabit, I believe, that the alphabet was invented—by Canaanites!

The invention of the alphabet ushered in what was probably the most profound media revolution in history. Earlier writing systems, like Egyptian hieroglyphic and Mesopotamian cuneiform with its curious wedge-shaped characters, each required a knowledge of hundreds of signs. To write or even to read a hieroglyphic or cuneiform text required familiarity with these signs and the complex rules that governed their use.

By contrast, an alphabetic writing system uses fewer than 30 signs, and people need only a few relatively simple reading rules that associate these signs with sounds.

This great invention had far-reaching social and cultural implications. With the alphabet, writing broke out of the “golden cage” of the professional scribal world. Writing was no longer their monopoly. When many more members of society could learn to read (and write), access to information and knowledge was no longer as limited as it had been. Alphabetic writing eventually gave many more people control over their lives and enabled larger segments of the population to take a more active role in the cultural and administrative affairs of their respective societies.

But how was it done?

Although, as I believe, the alphabet was invented by Canaanites, we still owe a significant debt to the Egyptians, for it was Egyptian hieroglyphs that provided the trigger and the means that made the invention of the alphabet possible.

To understand how this came about, we must first examine some very odd Serabit inscriptions—just a few dozen that markedly differ from the hundreds of hieroglyphic inscriptions at the site. The credit for first noticing one of these unusual inscriptions in Serabit goes to Hilda Petrie, wife of the famous Egyptologist Sir William Matthew Flinders Petrie, who was leading an archaeological expedition to Serabit in 1905. It was she who called attention to some fallen stones on the ground by one of the mines, bearing several awkward signs that seemed not to be real hieroglyphs.

Then more of these inscriptions began turning up on rocks by the turquoise mines, and even inside the mines. A few came from the desert roads leading to the temple. From the temple precinct itself, however, only two small statues and a sphinx bore inscriptions in this strange new script.



Petrie studied these crude inscriptions and observed that they appeared to be a kind of imitation of hieroglyphic signs. Yet the repertoire of signs was very small. Petrie ingeniously identified these awkward signs as an alphabetic script, different from the Egyptian hieroglyphic system with its hundreds of signs. Yet Petrie was unable to read these strange inscriptions.

In 1916, some ten years later, Sir Alan Gardiner, the famous English Egyptologist, noticed a group of four signs that was frequently repeated in these unusual inscriptions. Gardiner correctly identified the repetitive group of signs as a series of four letters in an alphabetic script that represented a word in a Canaanite language: *b-l-t*, vocalized as *Baalat*, “the Mistress.” Gardiner suggested that *Baalat* was the Canaanite appellation for Hathor, the goddess of the turquoise mines. Were these inscriptions carved by Canaanite workmen?



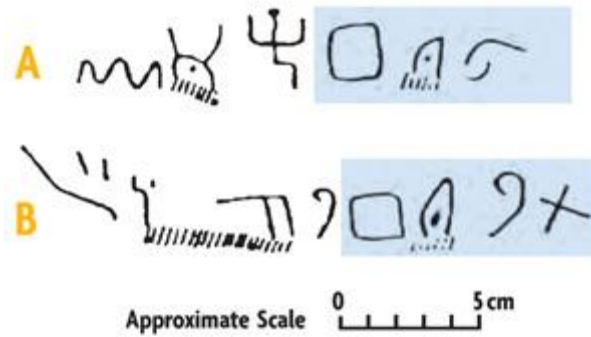
An important key to the decipherment was a unique bilingual inscription. It is inscribed on a small sphinx from the temple and features a short inscription in what appears to be parallel texts in Egyptian and in the new script.

The Egyptian hieroglyphic inscription on the sphinx reads:

“The beloved of Hathor, the mistress of turquoise.”

The text in the strange script, now identified as a Canaanite text, reads:

m-'h-(b) B-'-l-[t], “The beloved of Baalat.”



Each of the critical letters in the word *Baalat* is a picture—a house, an eye, an ox goad and a cross.



Gardiner correctly saw that each pictograph has a single acrophonic value: The picture stands not for the depicted *word* but only for its *initial sound*. Thus the pictograph *bêt*, “house,” drawn as the four walls of a dwelling represents only the initial consonant *b*. *Baalat* is written as shown in the drawing, in the blue highlighted areas (although the final *tav* is not legible in line A).

This ingenious principle is at the root of all of our alphabetic systems. Each sign in this script stands for one consonant in the language. (Vowels were not represented. The representation of vowels came later, and in different ways in different alphabetic systems.)

The alphabet was invented in this way by Canaanites at Serabit in the Middle Bronze Age, in the middle of the 19th century B.C.E., probably during the reign of Amenemhet III of the XIIth Dynasty.

We are reasonably confident about the place of the invention because almost all of the examples of the new script—which we may now identify by the name scholars call it, Proto-Sinaitic—come from this one site.²

We are also confident about the time of the invention because there are some very specific connections between the Middle Kingdom Egyptian hieroglyphs in Sinai and the new script.³ There is one hieroglyph that appears to have a special use, with very few exceptions, only in Egyptian hieroglyphic inscriptions in the Sinai during the Middle Kingdom. We might call this the “Sinai Hieroglyph.” The sign looks like a striding man with bent, upraised arms. In the Egyptian hieroglyphic inscriptions in Sinai, this sign is a logogram; that is, it stands for an entire word, not just part of a word. It probably means something like “foreman.” This hieroglyph appears dozens of times in Egyptian Middle Kingdom inscriptions at Serabit. (Its phonetic reading in Egyptian in this specific use in Sinai, however, is unknown.) This hieroglyph is rare even in later New Kingdom Egyptian inscriptions at Serabit. And it hardly ever appears anywhere else in Egypt.⁴



A letter in the new Proto-Sinaitic alphabet looks very much like this Middle Kingdom Egyptian hieroglyph. The Proto-Sinaitic sign almost certainly stems directly from the Egyptian hieroglyph.

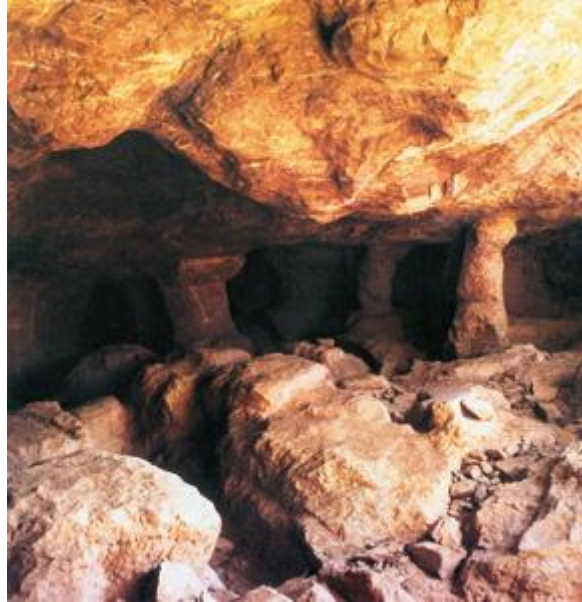


The Canaanites at Serabit probably connected this pictogram, which they saw everywhere at the site, with a loud call or order emitted by an official when he raised his hands to assemble the people, a typical shout such as *Hoy!* (also known in Biblical Hebrew),⁵ which may be the origin of the letter *h* in the Proto-Sinaitic script.

If I am correct that the first alphabetic script was invented at Serabit el-Khadem in the reign of Amenemhet III (mid-19th century B.C.E.), I believe I can plausibly explain the process by which it was invented—not by sophisticated scribes, but by comparatively unlettered Asiatic workers.

The inventors at Serabit clearly used models of hieroglyphs taken from the Egyptian Middle Kingdom inscriptions around them. The Proto-Sinaitic pictograms were adapted from the hieroglyphic pictograms and appear mostly in the area of the turquoise mines and the roads leading to the mines.

It may seem strange, but I believe the inventors of the alphabet were illiterate—that is, they could not read Egyptian with its hundreds of hieroglyphic signs. Why do I think so? The letters in the Proto-Sinaitic inscriptions are very crude. They are not the same size. They are not written in a single direction: Some are written left to right, others right to left and some from top to bottom. This suggests that the writers had mastered neither Egyptian hieroglyphic nor any other complex, rule-governed script.



For these illiterate Canaanites the pictorial meanings of the new letters were paramount. The iconic meaning of the hieroglyphs (what they actually pictured) served as an important mnemonic tool for the Canaanite adopters. The iconic meaning of the hieroglyphs was so important that even today, when the Hebrew letters have lost all iconic connection to the old pictorial models (we can't recognize what the letters are supposed to picture), most letters are still named after the old pictures!

The modern Hebrew letter *aleph* is the *'alp*, the word for "ox"; the letter *bêt* is the *bayt* or "house"; the letter *'ayin*, "eye," is the name of the old pictorial letter in Proto-Canaanite script (see drawings near the end of the article). But looking at a modern Hebrew *aleph*, *bêt* or *'ayin*, we can no longer see the ox, house or eye (nor are these original pictograms evident in the Latin letters A or B).

An Evolving Alphabet

Hieroglyphic	Proto-Sinaitic	Phoenician & Paleo-Hebrew	Early Greek	Greek	Latin	Modern Hebrew

Mostly by taking Egyptian hieroglyphs as pictorial models, the Canaanite inventors of the alphabet used the small selection of pictograms they chose in a completely new way, with no reference to (and no knowledge of) the correct reading of the signs in Egyptian!



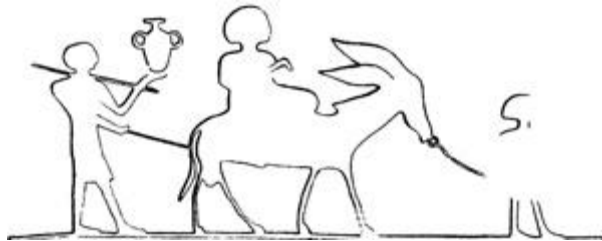
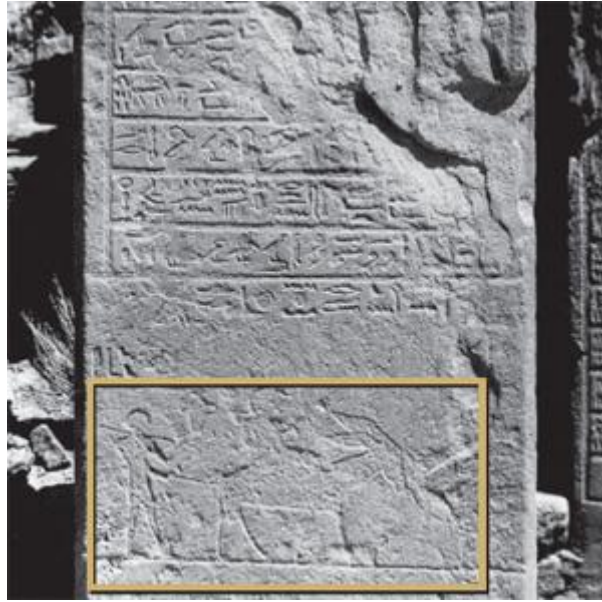


Confirming their ignorance of the meaning of Egyptian hieroglyphs, the Canaanite inventors of the alphabet would sometimes conflate two different hieroglyphic pictograms. For example, Egyptian hieroglyphic distinguishes two different kinds of snakes. One sign pictures a cobra generally; the other depicts a horned viper. These different pictograms are signs for different sounds in Egyptian, the first for the sound “DG” and for the second, “F.” These two snakes are never confused in Egyptian writing. The Canaanite inventors of the alphabet, however, failed to note the distinction and simply conflated the two snakes into a single Proto-Sinaitic sign that they used for the letter “N,” from their word for “snake,” probably *naḥash*.

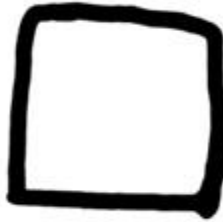
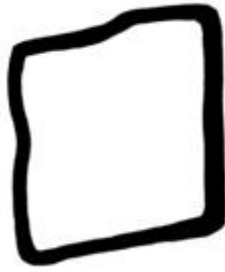


For a few letters, the Canaanites took as models not hieroglyphs, but important objects from their own world.⁶ For example, a drawing of the palm of the hand represents “K,” *kaf* in Canaanite; there is no pictogram of a palm of the hand in Egyptian hieroglyphic. Similarly with the Proto-Sinaitic sign depicting a composite bow; there is no comparable sign in Egyptian. In Proto-Sinaitic it stands for “SH”; the word for a composite bow in Canaanite was *ša-na-nu-ma* or the like.⁷ These examples represent independent creativity on the part of the Canaanite inventors of the alphabet and tend to confirm that they took the Egyptian hieroglyphic signs idiosyncratically and without regard to their function or value in Egyptian.

We might be even more specific about who the inventors of the alphabet were: We may even know their names. They apparently emerged from among the circle of one Khebeded. He is mentioned in several Egyptian hieroglyphic inscriptions at the site and is referred to as the “Brother of the Ruler of Retenu.” Retenu was the area between Gaza and the Baqaa in Lebanon. “Ruler of Retenu” was the title carried by rulers in this area of the Levant. When Asiatic rulers migrated to the eastern Delta, it seems that they kept the title “Ruler of Retenu.” It is clear that this “Khebeded, brother of the Ruler of Retenu” is a Canaanite. In one stela at Serabit (Stela 112), Khebeded pictures himself proudly riding on a donkey with an attendant both fore and aft. No Egyptian would picture himself riding on a donkey. On another stela at the site, Khebeded is pictured with the typical Canaanite “mushroom” hair dress. From the references in these stelae, it appears that Khebeded was involved with Egyptian expeditions to Serabit for more than a decade. He is clearly the highest-ranking Canaanite who left a hieroglyphic inscription in the Serabit temple. He was probably a leader of the Canaanite workforce.



The quality of the hieroglyphs in an inscription that Khebeded added on a stela (he only added his inscription to an existing stela with much better hieroglyphs) in the temple is very poor. His inscription on Stela 92 would have been an embarrassment for an educated Egyptian scribe (see images later in the article).⁸ Hieroglyphic signs of different sizes are crammed next to each other, and vacant spaces appear at the end of the line. But the hieroglyphic pictograms in Stela 92 bear a remarkable resemblance to the signs in the Proto-Sinaitic inscriptions. Perhaps most striking is the pictogram for “house,” in the Egyptian hieroglyphic text of Stela 92. The resemblance to the house in the Proto-Sinaitic inscriptions representing *bêt* is unmistakable and is very different from the original Egyptian hieroglyph.



The only Egyptian inscriptions where the square house is consistently used come from this area of Sinai and from the Middle Kingdom. And it appears unequivocally several times in Stela 92, which is probably a hieroglyphic Egyptian text made by Canaanites who were familiar with the Proto-Sinaitic inscriptions. They confused the picture of their own “house”-letter with the correct Egyptian hieroglyph!

The Proto-Sinaitic alphabet may well have been invented in the circle of the Canaanite Khebeded and his followers, many of whose names appear in his stela.

John Darnell, who discovered a two-line inscription in the Wadi el-Hôl (near Thebes) similar to the Proto-Sinaitic inscriptions from Serabit (see sidebar “[The Wadi el-Hôl Inscription: Earlier than Serabit?](#)”), has suggested that the alphabet must have been invented in Egypt in a location with “a plurality of cultural contexts.”⁹ But isn’t “a plurality of contexts” an exact description of Serabit in the Middle Kingdom?





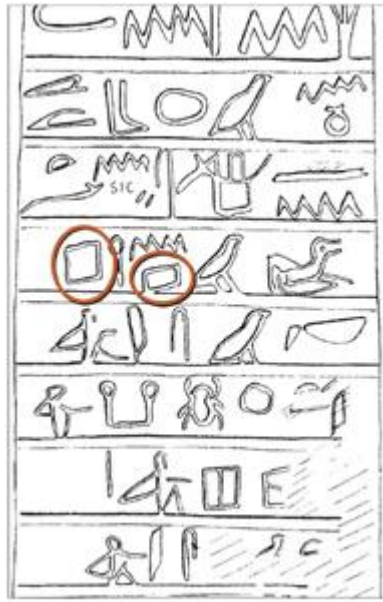
It was indeed a world unto itself. The workers in the mines spent long days and nights in the isolated desert, secluded in their camps. The difficult, dangerous work and the long expeditions no doubt cost lives. The Canaanites watched the Egyptians praying, worshiping and writing to the gods. When a name was written, it remained with the god forever. When a blessing was sought, it remained with the god long after the moment of prayer.



The isolation, fear, pressure and the sudden appreciation of “eternalizing the name” would naturally lead the Canaanites to try to write their own calls to their own gods (Baalat and El) in their own language.¹⁰

Was it the cognitively seductive nature of the hieroglyphic script, with its hundreds of little pictures, that made some Canaanite workers at Serabit feel that they could “almost read” and that gave them the feeling of “Yes, we can”?

As already noted, the vast majority of the inscriptions in this alphabet come from the Serabit area—more than 30 of them. Only one has come from elsewhere in Egypt (the two-line Wadi el-Hôl inscription). Some few, very short inscriptions (most only a couple of letters) have been found in Canaan dating to the end of the Middle Bronze Age and the Late Bronze Age (c. 1750–1200 B.C.E).



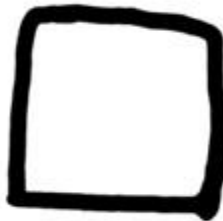
The alphabet was not an instant success—at least based on the existing examples. One thing is certain: It did not travel fast. Only rarely did a Canaanite caravaner or soldier bring the alphabet elsewhere. For a half millennium after its invention, this alphabet was rarely used—at least as far as it is reflected in the archaeological record.

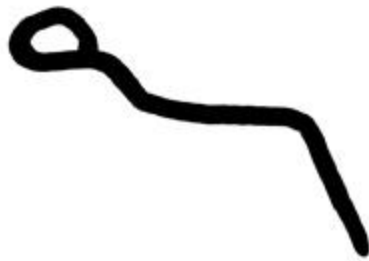
As the Semitist Seth Sanders has observed: “In this earliest phase, the alphabet is a quick and dirty tool of foreign workers, scrawled in desolate places: the mines, the gush of terror. There is no high culture there ... The alphabet’s first documented use boils down to the most basic and touching form of communication—‘I was here.’”¹¹

The Middle Kingdom in Egypt was followed by what is known as the Hyksos period (the XVth–XVIIth dynasties: 17th–16th centuries B.C.E.). In the Hyksos period, Canaanites ruled Egypt. (This period is sometimes cited as a model for Joseph’s rise to power in Egypt, as described in [Genesis 37–47](#).) As noted earlier, the Hyksos capital at Tell el-Daba has been intensively excavated for almost 40 years by Viennese archaeologist Manfred Bietak and his team. Not a single Proto-Sinaitic inscription

has been found there. The Canaanite rulers of Avaris would never adopt such an undeveloped, “primitive,” low-class script for their own records. When they presented themselves in inscriptions (which are scarce in Avaris), it was naturally in prestigious Egyptian hieroglyphs.

As the alphabetic script wandered with Canaanite caravans, it piously retained its pictorial forms for hundreds of years. People learned the letters from one another orally. For this kind of use, the *pictorial* nature of the signs was very important. It was easy to learn the alphabet simply by memorizing the pictures. The first sound of the picture was the letter. To remember the alphabet, all one had to do was memorize the pictures. The rest followed from that: The “name” of the letter leads one to a picture, which helps to recreate the form of the letter: In the margin at right you can see the ox-shaped head of the letter *aleph*, the box-shaped house (*bêt*) for “B,” the hand-like *kaf* for “K,” wavy lines representing *mayim* (“water”) or “M,” the snake-like *nahash* for “N,” the eye for *ayin* and the head (*rosh*) for “R.”







During this early period (until the 13th–12th centuries) the script continued to be used in a very restricted way, mainly to record personal and divine names. No administration, institution or scribal school was involved. No official power-holders would have an interest in sustaining or developing this subversive fringe invention of the nomads. That is probably why individual re-creations of the signs differ so widely, even though they always preserved their fundamental iconicity.

During the 12th century B.C.E., the dominant civilizations that had cultivated the complex hieroglyphic and cuneiform scripts in Egypt and Mesopotamia fell out of power. New peoples—Israelites, Phoenicians, Moabites and Arameans—appeared in Canaan and the Levant. For these new people, emerging on the periphery of the old great cultures, it was only natural to write in the fringe-born system of writing that traveled in their own milieu. It suited their languages, their social needs and their newly established identities.

Sometime during this period of change, the new script must have become institutionalized, maybe even promulgated in schools. As a result, the script quickly underwent a process of linearization and abstraction.¹² More experienced writers could relinquish the pictorial link between the letter and its name. At this stage, the “script of the caravans” lost one of its greater assets: its mnemonic power. From this moment on (12th–11th centuries B.C.E.), the user of the script would have to learn a list of arbitrary signs. It would be difficult if not impossible to find the pictures of a bull, a head or a snake in the script.

During the ninth century B.C.E., the alphabet became the official script of the entire Near East. With its adoption—first for Greek, and later for Latin—the alphabetic script, invented in the milieu of Canaanite miners in the remote Sinai desert, became the script of Western civilization.

The alphabet was invented only once. All alphabetic scripts derive from this original one, which we may call the Serabit alphabetic script.

The invention of the alphabet altered, in the long run, the lives of millions of people for millennia. It was not invented by learned scribes in schools, however. It was the child of a few great minds—perhaps one—who lived among the Canaanites working in the turquoise mines of Sinai. Egyptian hieroglyphs, however, made this invention possible. Through the invention of the alphabet, the long-lost ancient Egyptian hieroglyphs secretly live within our own script to this day.

I would like to thank Professors Joseph Naveh and Benjamin Sass, both of whom contributed greatly to my understanding of various aspects of ancient epigraphy treated in this article. Thanks also to Dan Elharrar of the Hebrew University for his invaluable technical assistance in preparing images for this article.

After this article was published, there was an interesting [follow-up...](#)

WHO REALLY INVENTED THE ALPHABET—ILLITERATE MINERS OR EDUCATED SOPHISTICATES?



In a landmark article in the March/April 2010 issue of **BAR**, Orly Goldwasser, professor of Egyptology at the Hebrew University of Jerusalem, explained how the very first alphabet, from which all other alphabets developed, was invented by illiterate Canaanite miners in the turquoise mines of Serabit el-Khadem in the Sinai peninsula. Inspired by Egyptian pictorial hieroglyphs and a desire to articulate their own thoughts in writing, these Canaanites created 22 alphabetic acrophonetic signs scratched into the rock that could express their entire language.

But Goldwasser did not convince everyone. Anson Rainey, emeritus professor of Ancient Near Eastern Cultures and Semitic Languages at Tel Aviv University, promptly responded to the article with his doubts that this watershed moment in human culture had been brought about by illiterate miners. In his letter Rainey argues that the alphabet was surely created by “highly sophisticated Northwest Semites” who inscribed countless papyrus sheets that have not survived.

Join us below to read Rainey’s critique and Goldwasser’s thorough rebuttal about who really invented the alphabet.

Turquoise Miners Did *Not* Invent the Alphabet

Thank you for the beautifully illustrated article on the invention of the alphabet by Orly Goldwasser (“*How the Alphabet Was Born from Hieroglyphs*,” **BAR**, March/April 2010). Orly’s main thesis is that the alphabet was invented at Serabit el-Khadem by Canaanites illiterate in hieroglyphics. In a footnote, she refers to the recent monograph by Gordon H. Hamilton, *The Origins of the West Semitic Alphabet in Egyptian Scripts*, Catholic Biblical Quarterly Monograph Series 40 (2006) and also to my review of Hamilton’s work in the *Bulletin of the American Schools of Oriental Research* 354 (May, 2009). However, she seems not to have digested the main theme, namely that the alphabet was invented by highly sophisticated Northwest Semites who knew not only hieroglyphics but probably also hieratic, the cursive script generally used by Egyptians at that time. The cultural objects (hieroglyphic signs) selected for the consonants of the alphabet were all from sophisticated life; none was from the life of pastoral nomads or mining laborers.

Though no examples of alphabetic writing have been found at Tell Daba, a major site on the eastern branch of the Nile in the delta, neither were hieratic texts on papyrus found there. It should be obvious that the alphabet was designed to be written on papyrus. It is unfortunate that the alphabetic inscriptions that have survived are only on rocky surfaces in Sinai, on ceramic vessels or on fragments of such vessels. But the same can be said of the later “Phoenician” version of that alphabet. We have examples from burial coffins, statues, on a stone plaque, ostraca and inscriptions on metal and other vessels. Papyrus examples, however, are quite rare (for example, the Phoenician letter of one woman to her “sister” that was found in Saqqara, Egypt).

It is obvious that the original pictorial form of the alphabet must have been written on dozens, hundreds, of papyrus sheets that have not survived. The miners who inscribed their thoughts on the walls of the turquoise mines or on the cliff above the smelting camp at Bir Nasib, were hardly the inventors of the alphabet.

Anson F. Rainey

Emeritus Professor of Ancient Near Eastern Cultures and Semitic Linguistics

Tel Aviv University

Israel

Orly Goldwasser responds:

I am grateful to Professor Rainey for his letter, as it allows me to elucidate further how the historical record lends support to my hypothesis.

Rainey writes: “*She seems not to have digested the main theme, namely that the alphabet was invented by highly sophisticated Northwest Semites who knew not only hieroglyphics but probably also hieratic, the cursive script generally used by Egyptians at that time.*”

(1) Rather than not digesting the “main theme” that Prof. Rainey alludes to, I simply do not see how its tenets are supported by the factual historical record. We must be careful not to be blinded by the genius of the invention of the alphabet, and *assume*, therefore, that such a breakthrough could be born only in the circles of highly educated scribes. These supposed scribes are presumed to be Canaanites, yet masters of all variations of Egyptian scripts—hieroglyphs and hieratic.

My thesis differs sharply from those of former scholars, in suggesting that the inventors of the alphabet *could not read Egyptian*—neither hieroglyphs nor hieratic. I believe that the inventors related to the image alone, to the pictorial part of the Egyptian hieroglyph. They saw hieroglyphs as little pictures of items in their world. They chose those pictures that were relevant to their lives and made a completely new use of them, a use that disregarded entirely their function in the “mother script,” the original Egyptian hieroglyphic system.

Moreover, they sometimes used signs that look alike in hieroglyphs, but are actually *two different signs* with very different readings in the Egyptian system (see the two different snake examples on page 45 of my article.) There are also others. For a detailed list of parallels for all alphabetic letters in Sinai in local Middle Kingdom Sinai hieroglyphs, see the table in Orly Goldwasser, “Canaanites Reading Hieroglyphs: Horus is Hathor?—The Invention of the Alphabet in Sinai,” *Egypt & Levant* 16 (2006), pp. 121–160.

(2) It was the inventors’ superficial and naïve familiarity with the previous script system, along with their need to write, that forced the inventors to start anew and to reach a new solution. Their minds were not chained by previous answers to the problem: *How to represent language in pictures or signs?*

Complicated and fascinating solutions to this problem were presented by the two existing high-prestige institutional systems, the Egyptian hieroglyphic script and the cuneiform script. These two systems solved the problem by creating very rich and highly informative script systems. But they each contained hundreds of signs, and were very far from being “user friendly.”

(3) The Semitic inventors of the alphabet found a new way of representing spoken language in script: Rather than capture whole words, they represented individual phonemes with icons. They were thus able to find a new solution for the picture-sound relationship. This leap in thought led to a great innovation: a new, *single, fixed* relationship between picture and sound. The new system may not have been highly elaborate, but it was very “user friendly.”



For example: The Egyptian hieroglyph depicting a house (at right) can be read in Egyptian texts in three ways:

1. As a logogram (word): *p-r*, house. Here picture, sound and meaning meet.
2. As a phonogram. In this case the same sign stands only for the sound *p-r*. But the *meaning* of the picture is not relevant and put aside, as in the word *p-r-i* “to go out.”
3. As a classifier (determinative). In this case, only the *pictorial meaning* of the house hieroglyph (at right) is kept, and the phonetic sounds *p-r* are discarded completely. In this use, the sign appears as an addition at the end of words of all sorts of “habitats”—palace, temple, store-house, prison, tomb (the eternal habitat), den (lion’s house) and nest. In all these cases, the sounds *p-r* are not pronounced. The hieroglyph is mute. It adds extra information to the words it follows, through its pictorial value alone.



On the other hand, the alphabetic house, *bet* (pictured at right), should be read always in one way—acrophonically. Only the first sound is taken from the picture. The pictorial meaning “house” is *always* discarded. This sound can now be a building block in many words.

Rainey writes: “*It is obvious that the original pictorial form of the alphabet must have been written on dozens, hundreds, of papyrus sheets that have not survived.*” Here, again, we should ground ourselves in fact. It is an indisputable fact that not a single example of the so-called cursive versions of this alphabet has been found to date. And while future finds could cast new light on the issue, Professor Rainey’s determination that “It is *obvious* that the original form had been written on hundred sheets of papyri” is not supported by the historical record. If such a cursive writing indeed existed, I would call on Prof. Rainey to demonstrate where it was practiced and by whom. More specifically:

1. **Rulers in Tell el Daba?** As far as we know, the Canaanite elite who ruled in Tell el Daba in the Eastern Delta (Avaris, the capital of the Hyksos) used Egyptian hieroglyphs for prestige lapidary writing. They may have used hieratic also, even though no such texts were found. Some Egyptian literary and scientific works were put in writing in the days of the last Hyksos king, so we may conclude that at least some of the Hyksos rulers had scribes who practiced hieratic in their service.

From two recent finds in the Hyksos palace in Tell el Daba, it is now clear that the Hyksos kings used cuneiform for international correspondence (Manfred Bietak et al., “The Hyksos Palace in Tell el-Daba. Second and Third Excavation Seasons (Spring 2008 and Spring 2009),” *Egypt and the Levant* 19 [2009], pp. 91–119, Fig. 21; see also, Manfred Bietak, “A Palace of the Hyksos Khayan at Avaris,” in *Proceedings of the 6th International Congress on the Archaeology of the Ancient Near East*, 2–11 May 2008, Rome, [Wiesbaden: O. Harrassowitz, 2010], pp. 79ff., fig. 11 [English]). This custom of the Hyksos rulers was adopted by the later Egyptian kings of the 18th Dynasty (e.g. the Amarna letters).

2. **Rulers and institutions in Late Bronze towns in Canaan?** For diplomatic correspondence with Egypt (and among themselves), the Canaanite rulers used cuneiform writing, continuing the Hyksos tradition of Tell el Daba. At the same time, *Egyptian scribes* residing in Canaan wrote good quality Egyptian hieratic for matters relating to the Egyptian administration in Canaan (e.g., hieratic ostraca in Lachish and Tell Sera). Hieroglyphic inscriptions in stone were set in the Egyptian centers in Canaan (e.g., Megiddo, Jaffa, Gaza and Lachish) by the local Egyptian authorities. In Ugarit and in some urban centers in Canaan, the cuneiform alphabet created in Ugarit (see Sidebar, “**A Cuneiform Alphabet at Ugarit,**” **BAR**, March/April 2010, p. 50) was also practiced.

So who and where were the rulers who ordered the alphabetic texts on papyri that Professor Rainey thinks existed? What were the purposes and topics of these alleged texts? Which state or institute provided the schools and the precious papyri? What regime would be interested in advancing the “other” additional script system?

My theory is that the alphabet was invented on the *periphery of society*, in Sinai, by people of Levantine origin, probably from somewhere on the Phoenician coast. They were part of the first waves of settlers who arrived to Tell el Daba.

The first wave of Canaanites who came down to the Delta were specialized foreign workers: sailors, soldiers, caravaners, and perhaps also builders. They were not slaves, nor were they people from the lowest level of society. (See Manfred Bietak, “Where Did the Hyksos Come From and Where Did They Go?” in M. Marée, ed., *The Second Intermediate Period OLA 192* (Leuven: Peeters, 2010), pp. 139-181.)

Some people from this community may have joined the Sinai expeditions by the end of the 12th dynasty. Gardiner, Černy and Peet, the publishers of the *Inscriptions of Sinai* (London: Egypt Exploration Society, 1952–1955), have already suggested that the working force in Sinai set out from the Delta. They arrived at Serabit as part of the official Egyptian expedition. They were trained soldiers, sailors and donkey drivers.

It is in these circles, that the alphabet was invented, and not for any administrative purpose. No alphabetic text in Sinai mentions any administrative matter, and no numbers are discernable. We find only gods names, personal names and very short sentences including titles and the word “gift.” Not much more. The gods mentioned repeatedly are Baalat and El, the Canaanite father god who is also known from the texts from Ugarit and the Bible.

We must therefore surmise that the impetus for the invention of the alphabet was *spiritual*. The Canaanites wished to communicate with their gods, to talk to their gods in their own language and their own way.

Rainey writes: “*The cultural objects (hieroglyphic signs) selected for the consonants of the alphabet were all from sophisticated life; none was from the life of pastoral nomads or mining laborers.*”

Contrary to Rainey’s assertion, here are the signs that can be identified with some degree of certainty in the emerging alphabet:



Head of a bull



Sketch of a minimal house



Fish



The standing man (Middle Kingdom Sinai hieroglyph)



Peg of Canaanite outfit (a suggestion of Professor Rainey himself: see Review of *The Origins of the West Semitic Alphabet in Egyptian Scripts*, by G.J. Hamilton, *BASOR* 354 (2009), pp. 83–86). Indeed, many examples are known from Tell el Daba



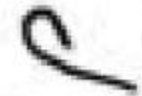
Wick of twisted flax



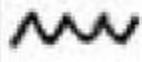
Hand



Palm



Ox-goad



Water



Snake



Eye



Builder's Corner



Plant = Lower Egypt



Man's head



Bow



This list of signs alludes to both the everyday and the spiritual, but is nonetheless pedestrian and bears no apparent relation to Rainey's "sophisticated life." It shows many components of the human body and natural resources. One example is the most important natural resource in the desert—water. From the animal world, we have the bull's head—surely an animal with many connotations for the Canaanites for whom Baal was represented as a bull (as in the "golden calf" in the Biblical story). The snake is an ever-present reptile in the wilderness and has also an important role in Canaanite mythology. The fish has strong presence in Baal's iconography (see the seal pictured at right and the scarab from Tell el Daba); and dried fish were surely part of the daily diet of the workers in Sinai. The "corner," *pe*, if indeed it represents a builder's tool, as I have suggested, has a direct connection to the building and mining activities in Serabit. The Asiatic bow has a very clear relation to the soldiers' daily life. If the *lamed* is indeed an "ox-goad" or a "throw stick" it relates naturally to the caravaners' daily life. The wick of twisted flax was a necessary tool for workers in the dark tunnels of the mines.



If Hamilton is correct that the *šade* is a simplistic representation of the hieroglyph of the clump of papyrus pictured at right (the emblem of Lower Egypt), it strongly relates our Canaanites to the Delta area. Such a sign would be meaningless for Canaanites residing outside Egypt. This fact was acknowledged by Hamilton, who indeed suggests that the inventors came from the region of Tell el Daba (G.J. Hamilton, *The Origins of the West Semitic Alphabet in Egyptian Scripts*, The Catholic Biblical Quarterly Monograph Series 40, [Washington DC, 2006], p. 317).

It is easy to speculate that there were papyri that have been lost, but which would provide evidence for a very different invention of the alphabet. However, the evidence we do have suggests that the invention of the early alphabet ideally fits the Canaanite community in the mines of Sinai.

Addendum:

Clayton Christensen, Professor of Business Administration at the Harvard Business School, is one of the world's leading thinkers on innovation and the world's foremost authority on "disruptive innovation." Professor Christensen has written:

"An innovation that is disruptive allows a whole new population of consumers access to a product or service that was historically only accessible to consumers with a lot of money or a lot of skill. Characteristics of disruptive businesses, at least in their initial stages, can include: lower gross margins, smaller target markets, and simpler products and services that may not appear as attractive as existing solutions when compared against traditional performance metrics.

Because companies tend to innovate faster than their consumers' lives change, most organizations eventually end up producing products or services that are too good, too expensive, and too inconvenient for many consumers ... by only pursuing 'sustaining innovation' that perpetuate what has historically helped them succeed, companies unwittingly open the door to 'disruptive innovations.' 'Disruptive innovation' describes a process by which a product or service takes root initially in simple applications at the bottom of a market and then relentlessly moves 'up market,' eventually displacing established competitors."

(www.claytonchristensen.com/disruptive_innovation.html)

Looking at the invention of the alphabet through the prism of this analytical framework, we could easily swap "companies" for "institutions" (and their scribes). The institutions of the old world produced the highly sophisticated, elite script systems for the benefit of the upper class of the Ancient Near East. These systems were "too good" and "too expensive." The alphabet began by targeting a very small market with a much simpler, less attractive product.

By sustaining and perpetuating what historically helped them to rule (hieroglyphics or cuneiform), the institutions of the Ancient Near East left the door open to "disruptive innovation"—the alphabet!

The alphabet spent hundreds of years on the "bottom" of the cultural market, but eventually completely displaced all its old, well-established competitors.