

When did people start writing in the Levant?

The world's first expression of proto-writing has been identified in the Nahal Mishmar hoard, a collection of about 400 copper artifacts produced in Canaan 6,000 years ago. This earliest proto-writing is tridimensional: the entire artifact is involved in the coding. This invention was not intended to record orders or shipping certificates but to understand phenomena through the net of relationships inherent in the language.

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December 2019

Article

Until recently, the invention of writing was associated with the centralization of power in Mesopotamia and Egypt. Hence, the administration of an extended kingdom requires a transmission of orders over great distances, so the emergence of writing was regarded as a response to this request. Systems of writing comprising a defined set of signs are identifiable in Egypt and Mesopotamia at the end of the fourth millennium, concomitantly with the rise of centralized power. However, these systems were not the first stage in the development of these writings. Twenty years ago, archaeologists discovered in tombs from Upper Egypt (Abydos, 3320 BCE) some small bone and ivory tags with engraved signs. Once deciphered, they were identified as an early form of writing, devised at least three centuries before the emergence of the first Egyptian dynasty. The classical explanation for the emergence of writing collapses, but what might have stimulated its development instead?

Until the invention of writing, information was transmitted using symbols. For example, someone who intended to send cows drew a cow on a surface and a sign coding their number. Such a system is sufficient to create shipping certificates and manage trade at a basic level but cannot communicate more detailed information such as the name of an individual or a place. Moreover, abstract ideas are impossible to transmit using such representative symbols.

The Abydos tablets revolutionize the world of registration. Alongside the symbols previously in use, a new set of signs is created, based on the principle of rebus. Here, the sign is introduced not for what it represents pictorially, but for something pronounced just like the thing depicted in the symbol. For example, in the rebus principle, the drawing of a cow designates not the animal, but the verb *to cow*. It may even mean *to caw*, according to the context or by the addition of another sign (determinative) conditioning the interpretation. This relationship between the cow and the abstract notions associated with *cow* and *caw* exists only in English, however. Unlike the universality of symbols, the exploitation of homonymy makes the use of rebus language-specific.

The tag inscriptions from Abydos do not mimic spoken language and do not attempt to express constructed sentences. Instead, they express individual words, mainly locations or personal names, using the rebus principle. This is why this early stage is now defined as a visual code rather than an original form of writing. This invention permits the expression of a new world

of realities and meanings, some of which are abstract by nature. For the first time, words could be broken down into constituents (each expressed by a different sign), bringing forth a new universe of connections between speech and reality. Language, therefore, became an independent reality and enabled non-trivial combinations of features that changed perceptions of reality and even produced a new kind of poetry.

Was writing developed at first as a tool for exploring this hidden reality rather than as a means for an elite group to expand and streamline its rule? The findings from Egypt do not provide an answer to this question because the ivory tags are found in the tombs of elite men in the area of Abydos and because they mainly express the deceased's name, property, and place of activity. However, holiness was apparently attached to writing from its origin in Egypt, as revealed by its Greek appellation as *hieroglyph* (= sacred writing). This suggests that writing was not conceived at origin as a practical tool for transmitting information between two individuals and not as a method for inscribing personal names or toponyms on tags. The holy dimension attached to writing is better compatible with an exploration of the hidden universe of the gods through the rebus principle and the language homonyms permitting its use.

The discovery of a visual code many centuries before the Abydos tombs casts a new light on the possible motivations for its emergence. The use of the rebus principle has been recently identified in the Nahal Mishmar hoard, a collection of about 400 copper artifacts found in a cave of the Judean desert and dated (through radiocarbon measurements on the mat wrapping the objects) to about 4300 BC. The hoard belongs to the Ghassulian culture (3770-4500 BC), which is characterized by the absence of centralized governance and of any signs of social classes. This, the earliest expression of visual code identified so far, therefore, emerged outside of any context of the centralization of power and authority.

From its discovery in 1961 by Pesach Bar Adon, this hoard has remained a mystery. The outstanding quality of the artifacts denotes the mastering of complex alloying and casting processes, which might usually be expected to have developed due to the presence of elite men who could acquire such prestigious artifacts.

Items from the Nahal Mishmar hoard



Another mystery concerns the objects themselves. In the absence of parallels in other cultures, one does not know today what their use was and why the South Levantine metalworkers devoted so much time, inventiveness, and effort (including importing exclusive ores from thousands of miles away) to produce them. The presence of tools in this cache indicates that the metalworkers kept the items and gathered them in the Nahal Mishmar cave. And why did they? Are they luxury items that have not yet found a buyer? Or can we approach them as cultic artifacts?

Fortunately, such an extensive collection of objects enables us to identify recurrent features, which can help characterize any signs of a visual code. To do this, we need to cast aside the tendency to reduce writing to only signs painted or engraved on a surface. It turns out that the earliest visual code, which appears in the Mishmar Nahalim objects, is three-dimensional and finds its expression in whole objects.

A visual code is based on linkages between things and words. A necessary condition for its identification is to elucidate the language spoken by the people who created these objects. This determination is not straightforward when it concerns people who lived more than 6,000 years ago. Many signs indicate that the Ghassulians spoke one of the dialects that preceded the Proto-Canaanite idioms attested in the Southern Levant from the end of the fourth millennium BC. This claim is supported, in part, by the fact that the agricultural terms of the Semitic languages spoken in the Southern Levant preserved the memory of the early phases of agriculture in the region. These terms were therefore spoken in this region for at least 10,000 years. Also, the metallurgical lexicon (the production and processing of metals) is Semitic in the languages spoken in Canaan at the Bronze Age. Since metallurgy is indigenous to the Southern Levant, this observation confirms that the people who developed metallurgy in this area spoke one of the western-Semitic dialects from which the Canaanite language family, including Hebrew, originated. These premises open a new perspective of interpretation of the Nahal Mishmar hoard.

The discovery of the visual code begins with one object called a “crown,” although its diameter does not fit a human head. In fact, this object is similar in shape and dimensions to the first furnaces used by the Ghassulian smelters to produce copper. These furnaces, the remains of which were discovered in the Be’er Sheva area, are circular structures built from a clay wall raised above the ground. The heads of two young ibexes, located above the upper rim of the “crown,” are a repetitive motif in several Nahal Mishmar objects, found as two conjoined heads or as Siamese animals. Interestingly, in all these instances, the young ibex duo motif always appears in the same position – on top of the objects.

The “crown” with two young ibex heads



The twin ibex heads on the top of a scepter from Nahal Mishmar



If we look for a rebus coding of this sign, *ofer* (presumably pronounced *g'afar* in ancient dialects) designates not only *a young ibex* but also *dust*. It also designates *ore* because ore is a mineral that should be crushed into dust before its insertion into a furnace. And so, the pair of *young ibexes* and even their combination and description as Siamese beings might express the need to combine different ores inside the furnace to generate an alloy. This option is particularly interesting since most of the Nahal Mishmar artifacts are cast from an alloy that combines indigenous ore originating from the Arabah (from which pure copper is extracted) with ores enriched in arsenic or manganese originating from distant regions.

The identification of the first sign allowed for the decoding of many others. For example, the object identified as a decorated mace head includes the motif of young Siamese ibexes. Its two protuberances symbolize the blade of two different metal tools, probably a knife and an ax. And, as in the flexible watches in Salvador Dali's famous painting, the round shape of these blades renders them unusable. Their movement and even the vegetal connotation (the entire artifact recalls an opening flower) suggest a context of emergence, rather than the figuration of "mature" objects. Their emanation from the sphere makes it the source of raw copper from which the objects are formed. The fit between the sphere and inner shape of a crucible supports this interpretation.

The mace head with twin ibexes



And so, if we look at the whole object from the top down, we can discover the different stages of metallurgy: the combining of different ores (the young Siamese ibexes) to form an alloy (the sphere of metal identified as a mace head) and the casting of tools from it in the second step. This decoding reveals a combination of a sign (young Siamese ibexes) with symbols (a copper sphere, the objects being formed), with a direction of reading, from top to bottom, compatible with the steps of production. Hence, more signs can be discovered. For example, the hole that goes right through the sphere, through its entire length, may hold the object on a stem. But it might also be read as a sign expressing “fierce fire” based on the double meaning of the Semitic word *hr* designating both a *hole* (in close relation with the mace head association of the sphere) and a *fiery fire* (in association with the metallurgical connotation of the sphere). The repetition of these markers with various objects established their meaning in the visual code and allowed the expansion of its identification.

So far, about twenty signs of this visual code have been identified. The meanings deciphered suggest that the code was developed primarily to express the metallurgical reality itself and to connect it to the universe of beliefs of the people who developed it. For example, in some objects a connection is made between copper recycling by re-melting and the reproductive process, in which “melting” bones (= mature objects) are turned into semen (= liquid metal) and re-cast in the woman’s womb (= bodies cast in disposable molds through the lost-wax technique).

Deciphering the visual code reveals that the artifacts found in Nahal Mishmar mainly express the wonder of the creation of copper and its endless recycling, as well as the implications concerning the mental universe of the metalworkers. This issue is not puzzling. In the Southern Levant, copper was produced from malachite, a greenish sandstone devoid of any external sign of metal presence. Therefore, if slag is merely a transformation of the stone in the furnace, the emergence of copper has no antecedent in a world that had no knowledge of the principles of modern chemistry. Consequently, the production of copper in a furnace becomes an act of creation of material that did not previously exist; no native copper has been found in the Southern Levant. And so, metallurgy transforms man into a demiurge, a privilege hitherto reserved for gods. No wonder, then, that the objects from Nahal Mishmar, created shortly after the beginning of metallurgy in the Southern Levant, may focus on this new status of man in the universe and its consequences. The development of the visual code may be part of the revolution of mind stimulated by the development of metallurgy in the Southern Levant, along with the need to explore, understand, and express this new reality.

The Ghassulian visual code did not yield a genuine writing system in the Southern Levant, but this does not make it a marginal phenomenon. First of all, it proves that the visual code is not a stuttering step in the process of writing development. It is a coherent phenomenon by itself. Its emergence confirms that the invention of the visual code and the mental revolution that accompanied it are not conditioned by any need for efficient management in a centralized society.

In addition, it should be remembered that metalworkers from the Southern Levant reached Egypt and Mesopotamia in the mid-fourth millennium BCE, centuries before the earliest expression of a writing system in these regions. In both nations, these metalworkers and their cultural values might have contributed to the development of the visual code. It is also noteworthy that the first developments of the alphabet, in the early 2nd millennium BC, occurred in the Southern Levant and Sinai. The alphabet represents a new dimension of exploitation of the rebus principle in which a sign is introduced not for expressing a homonym concept, but only the first sound of the word expressing the encoded reality. The discovery of the earliest traces of alphabetic writing in Sinai, near the entry of copper mines, suggests that the Levantine metalworkers were probably involved in its development. Consequently, it might be that the old principles generating a visual code survived among the traditions of the South Levantine metalworkers and found a new expression in the invention of the alphabet.

Metalworkers are known in ancient mythologies (*e.g.*, Celtic mythology) as the inventors of writing and those responsible for bringing it to the people. The same claim is encountered in traditional societies. For example, the smiths are known in the Niger Valley for inventing secret writing, exploited for discovering and transmitting esoteric information, and for acquiring the expertise of dream decoding, prophecy, and poetry. The close relationship between metallurgy and poetry is widespread in ancient and traditional societies. It also appears in the Bible, where Jubal the musician and Na'ama the poetess are siblings of Tubal-Cain the smith (Gen 4: 21-22).

The link between poetry, prophecy, and visual code finds an expression in the Bible, where poetry is replete not only with phonetic restrictions linking different words but mainly in actual wordplays founded on homonymy. The obsession with wordplays, which is a rebus extension to the domain of language itself (that is, a “square rebus”), is so important that it even glides into prose and becomes a fundament of biblical writing, and especially of the communication with the divine.

By these means, the text becomes a tool for discovering a concealed fundament of reality. This dimension is exceptionally unveiled in words addressed by YHWH to Jeremiah instructing him in how to decipher the prophetic language: “*And the word of YHWH came to me, saying: Jeremiah, what do you see? And I said I see an almond (**shaqed**) branch. Then YHWH said to me, “You have seen well, for I am watching (**shoqed**) over my word to perform it”* (Jer 1:11-12). Here, YHWH exploits the principle of rebus for carrying his message, confirming the prophetic dimension of this technique of language introspection. It provides further evidence that the visual code was regarded as the fundament of the divine language and not a tool developed for improving the centralization of powers. Through the earliest forms of writing, man dared to use language not only as a means for transmitting the desires and opinions of authorities but as a means for discovering the invisible net of interrelations that underpin existence. For this reason, it constituted the tool of communication with the divine in the past and even now remains an essential component of the art of poetry.

Further readings

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