

Form, Layout, and Specific Potentialities of the Ancient Egyptian Hieroglyphic Script

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Abstract and Keywords

Egyptian hieroglyphic script is figurative; its signs are images depicting the *realia* of the pharaonic universe in the same manner as do the figurative arts. To become script signs these images undergo three constraints: calibration, dense and harmonious arrangement, and orientation (i.e. direction of reading). Its figurativity, its flexible manner of engaging with the writing surfaces, and its complex system of encoding the linguistic data provide the hieroglyphic script with important specific potentialities that were carefully exploited in its symbiotic adaptation to objects and monuments and in its enriching the linguistic messages it conveyed with ideological connotations. Egyptian hieroglyphs—but not the very hieroglyphic writing system!—were borrowed in the Meroitic hieroglyphic script and chiefly in the Proto-Sinaitic alphabet. Via this alphabet and its Semitic successors, some hieroglyphs are ultimately the ancestors of European characters.

Keywords: script, image, direction of reading, hieroglyph, figurativity, figurative art, Meroitic, Proto-Sinaitic

The Basic Figurativity of the Egyptian Hieroglyphic Script

THE most salient characteristic of the Egyptian hieroglyphic script is its “figurativity,” a concept derived from art history (“*arts figuratifs*”). Several scholars use the more ambiguous term “pictography.” To speak of “iconicity” would be too vague. A script is commonly labeled “figurative” when the signs it uses, or some of them, are figural depictions that can be more or less identified as *realia*, even by someone foreign to the culture to which the script belongs. A glance at the following inscription (Figure I.1.1) suffices for one to understand that Egyptian hieroglyphs meet with such a definition:

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Figure I.1.1. From the tomb of Sarenput II/Nubkaurakht, Aswan, necropolis of Qubbet el-Hawa, no. 31. Photography: Pascal Vernus.

(p. 14) Most of the hieroglyphs from this text are easily identifiable by anyone, even those unfamiliar with Egyptian culture.

Artistic Conventions

This rough definition, however, may be questioned on the grounds of the subjectivity it implies. For instance, Chinese-literate people are culturally inclined to consider that the signs of their script depict *realia*, while foreigners might not. Egyptian hieroglyphs can be characterized as figurative in a less subjective sense because they depict the *realia* of the pharaonic universe *in the same manner as do the figurative arts*. Let us consider this example (Figure I.1.2):



Figure I.1.2. Block 180N from Hatshepsut, Chapelle Rouge, Karnak. Photography: IFAO.

On the right, the kneeling king is offering a basket on which lies a dummy foreleg of an ox.

Between him and the god Amun, sitting on the left, there is a column of text (Table I. 1.1A). At the end of the column, the two signs depicting an ox leg and a cup (Gardiner F24, W10) obviously represent the same object, the basket with the dummy foreleg, as the image does.

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Clearly, the same basic artistic conventions—the so-called Egyptian canon—hold whether depicting the physical object in the figural representation or depicting it as a script sign in the caption. The basket and the foreleg are in profile view. The latter is graphically superimposed on the former, although we are meant to understand that it would be inside it.

Table I.1.1. Hieroglyphic Text in Typography

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Pascal Vernus working with JSesh software, Serge Rosmorduc

1 Water



2 Flame and smoke



3 Neck



4 Hill



5 Locust, fly, deity



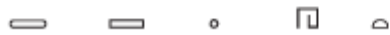
6 Sleeping man, stool, owl



7 Structural relationships



8 Primary hieroglyphs–simple



9 Primary hieroglyphs–complex



10 Composite hieroglyphs



11 Remaining phonetic feature and plays on standard forms



12 Superimposition



13 Juxtaposition



14 Overlapping

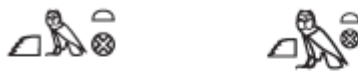


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17 "Egypt" in a straight row



18 "Egypt" in typical arrangements



19 Longer statement in a straight row



20 Longer statement in a typical arrangement



A) Excerpt from Block 180N from Hatshepsut, bark chapel, Karnak



C) A text in retrograde direction (see Vernus 1978)

(1)

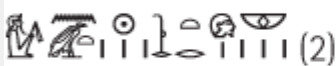


(2)



B) The four basic script orientations

Text in lines, right to left



Text in lines, left to right



Text in columns, right to left

(2)



(1)



Text in columns, left to right

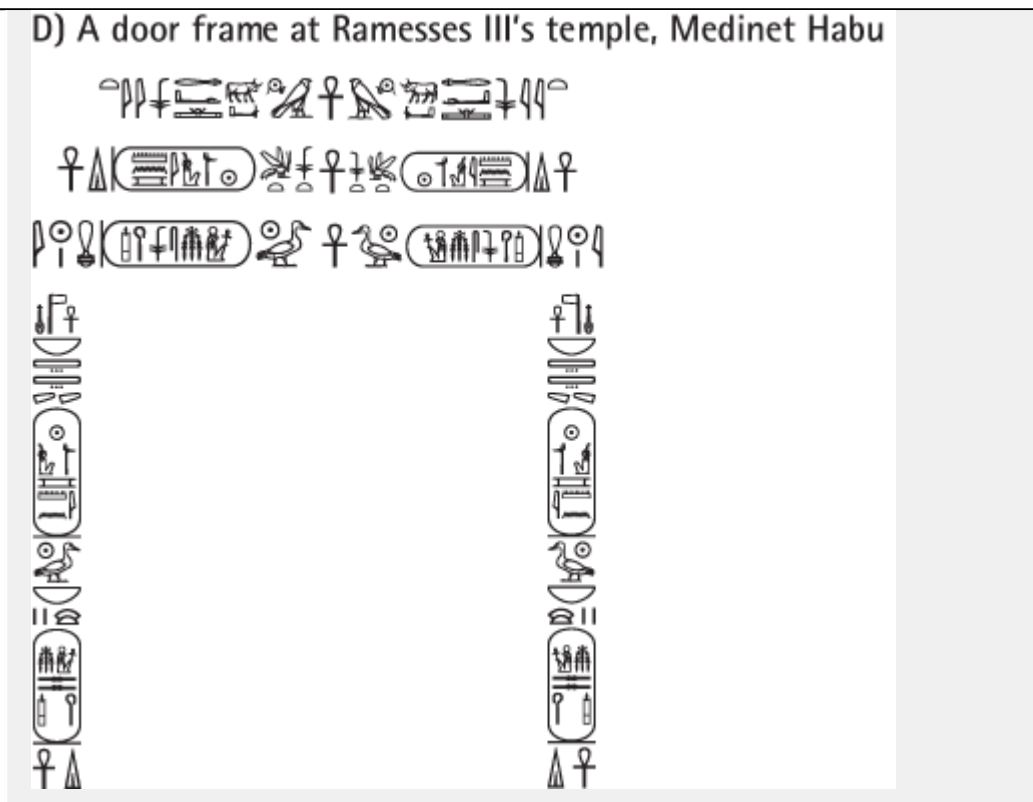
(1)



(2)



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(p. 15) (p. 16) (p. 17) **Stylization**

More generally, hieroglyphs are highly stylized, according to specific conventions. For instance, water is depicted as a zigzag in the sign Gardiner N35, and also in hieroglyphs involving it, such as a man swimming, or a man receiving purification (Table I.1.1.1). Flame and smoke are sketched in a very conventional manner in a hieroglyph depicting a brazier (Q7) and in a hieroglyph depicting a bowl with burning incense (R7) (Table I.1.1.2). In certain hieroglyphs, the neck is excessively lengthened because it is the salient part that accounts for their meanings (Table I.1.1.3).

A hieroglyph is not intended to depict its referent as a particular observer would see it from a particular viewpoint, in a particular place, or at a particular moment. Rather, it is supposed to show it so as to highlight its main stable and essential characteristics (Hornung 2001); it is conceptual rather than realistic. That accounts for the fact that some hieroglyphs, far from depicting a concrete object, are mere “mental images.” For instance, Gardiner N29 schematically sketches the idea of a hill rather than presenting a detailed image of a hill (Table I.1.1.4).

The depicted objects are reduced to their mere outlines. (For their drawing, see Fischer 1983.) They are often in the profile view, but they can also be in the frontal view, or viewed from above; compare respectively a locust, a fly, and a deity whose face is particularly frightening (Table I.1.1.5). One hieroglyph can combine different viewpoints, as is conspicuous, for example, in those depicting humans (Pierrat-Bonnefois 2013). Inter alia, in the hieroglyph depicting the sleeping man, he lies on his back, viewed from above, but

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the headrest and his head are in profile view (Table I.1.1.6). The same holds for the stool: the seat is seen from above, but the legs are in profile view (Brovarski 1996, 140). In the hieroglyph depicting an owl, its body is in the profile view, but its head is in the frontal view, which was deemed the most characteristic in that particular case.

(p. 18) Some hieroglyphs may be rendered with an extraordinary profusion of details so as to enhance their original figurative value (see later, “Details”), or through a nonstandard individualizing treatment so as to suggest “realistic notations” (Fischer 1969), escaping thus to the *“stratégie d’épure”* to fall under the less common *“stratégie d’appogiature,”* as do the figural representations (Vernus 2012b).

A particular style of hieroglyphs, referred to as “linear hieroglyphs,” “semi-cursive hieroglyphs,” or “book-writing hieroglyphs,” was used for small objects and portable writing surfaces (Fischer 1976a, 40–42; Goelet 2010, 125 and n27). They were not bound to right-left orientation of reading and thus should be carefully distinguished from tachygraphies (hieratic and demotic).

Color

Theoretically, hieroglyphs should be colored, a requirement that was not systematically met for reasons of investment. Nevertheless, they are often monochrome, being painted in blue, in green, less frequently in yellow (Fischer 1976a, 32; Delange 1998), or even sometimes in black so as to suggest that the text, while being written on an object or a monument, refers to a manuscript.

In elaborate inscriptions, each hieroglyph possesses its specific colors (Gander 2005). Assigning colors relies on two approaches. According to one of them, which might be called the “naturalist” trend, the colors should reflect the visual perception that the Egyptian had of the hieroglyph’s referent. This trend is illustrated by the quail chick in Figure I.1.1. The body is ocher, with black on the back suggesting the top feathers; the belly is white, and the legs are red. Another approach might be called “symbolic,” since the colors of a hieroglyph depend on the symbolic values of its referent. For instance, the green color of the hieroglyph depicting a swallow or a swift (G36), does not relate to the perceived appearance of these birds, but arises rather from the fact that they are closely bound to the morning, a time of regeneration and growth that is closely associated with the color green (Vernus 2005, 65).

Inventory of Signs

The signs inventory encompasses an overwhelming number of hieroglyphs that are figural depictions of the concrete and imaginary *realia* of the ancient Egyptian universe. According to Egyptological tradition (Gardiner 1957, 438–548), they are classified in twenty-six categories, including humans, deities, parts of the human body, animals and parts of animals, trees and plants, natural phenomena, and many sections encompassing buildings, objects, and artifacts of different kinds. Abstract and geometrical signs are few in

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number. Some are cursive forms of hieroglyphs, having reentered the (p. 19) hieroglyphic inventory from the hieratic tachygraphy according to a phenomenon of “feedback” or back formation.

Structure

Within the inventory, embryonic microsystems show up here and there, involving structural relationships between the position, the orientation, or the morphology of the signs (e.g., Table I.1.1.7).

Moreover, three categories of hieroglyphs should be distinguished according to their constituency.

A. Primary hieroglyphs cannot be analyzed into autonomous, meaningful components. They are often very simple (Table I.1.1.8), but they may be rather complex (Table I.1.1.9).

B. Composite hieroglyphs involve self-sufficient, full-fledged signs to which are added an element that is not a full-fledged sign. For instance, the human hand from which water flows (D46a), has a different use from the full-fledged sign (D46). It is the same for other signs as well (Table I.1.1.10).

Particularly interesting is the tethering rope (V14, V13). The diacritic tick on the former indicates a remaining phonetic feature that vanished elsewhere. The constituency of other hieroglyphs (e.g., Table I.1.1.11; Beaux 2009) involves a play on the standard form, where an original part is substituted with a phonetic sign. This illustrates how the signs inventory can be enlarged by standardizations of scribal devices and, more generally, how the hieroglyphic system involves its own metadiscourse.

C. Monograms are built from particular arrangements of two or more self-sufficient and full-fledged hieroglyphs. These are common (Lacau 1954, 103–105; Fischer 1977a; Van Essche 1997c) and are composed in four main types of arrangements.

1. Superimposition (Table I.1.1.12)
2. Juxtaposition (Table I.1.1.13)
3. Overlapping (Table I.1.1.14)
4. Inclusion (Table I.1.1.15)

Innovations

Needless to say, the inventory of signs evolved over time. Some signs disappeared. Many others were created to fit a new Egyptian universe. For instance, the introduction of the horse led to the introduction of hieroglyphs taking it as a referent (Table I.1.1.16). The creation of signs may also be triggered by scribal speculations, including individual innovations that were never standardized (Fischer 1976b, 55–58; Laboury 2013, 39; see also earlier, “Stylization,” and later, “Details”). During the Pharaonic Period, the (p. 20) inventory of signs could have encompassed between fifteen hundred and two thousand items

(Collombert 2007). Their number increased theoretically *ad libitum* during the Greco-Roman Period.

Specific Constraints on Hieroglyphs

That the hieroglyphs are to be characterized as “figurative” in the strongest sense of the term does not mean that they are exactly on the same plain as the full-fledged figural representations or that there is not any distinction between them. While a hieroglyph is basically an image, it has to undergo three specific constraints to function as a script sign, that is to say, an element of a writing system:

1. Constraints of size ruling the conventions of scale.
2. Constraints of arrangement in occupying the space devoted to the text.
3. Constraints of orientation ruling the hieroglyphs and the direction of reading.

Constraints of Calibration Ruling the Conventions of Scale

A particular convention of scale governs an image when it assumes the status of script sign. Constraints of sizing imply that the respective dimensions of the hieroglyphs are not proportional to the respective sizes of their referents (i.e., of the reality they represent). For instance, in the inscription in Figure I.1.1, the elephant (E26) appears to be in the same size as the ram (E10); the mountains (N25) occupy the same space as the human mouth (D21); the sandy hill slope (N29) the same space as the human face (D2). Without such constraints of scale, signs with small referents would have been hardly readable, and conversely, others with large referents would have been unreasonably huge, and too much space would have been left blank.

In figural depictions, the relative sizes of the elements depend on another set of rules, involving, for instance, not only the relative physical sizes, but also the relative hierarchical positions of their referents.

Constraints of Arrangement in Occupying the Space Devoted to the Text

In European scripts, signs often follow each other in a straight row, lying on the same level. In hieroglyphic script, the signs are subject to particular rules of arrangement. Far from lying all on the same level, they are laid out at different heights, in virtual quadrangular frames—square or rectangular—that divide the space devoted to the text. These

(p. 21) virtual frames are called “cadrats” or quadrats. The hieroglyphs have to fill these cadrats in such a manner that they could meet with two requirements:

- **Density:** the space left blank between each hieroglyph is reduced to the necessary minimum so as to avoid contact or overlap. Moreover, there is no separation between the words, the phrases, the clauses, and the sentences. A hieroglyphic text, as long as

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it might be, runs continuously from the beginning to the end without any punctuation or blank space. This is true chiefly for texts on objects or monuments. On portable writing surfaces, such as ostraca, writing boards, and papyri, and all the more when tachygraphies are used, the uniform succession of signs can be broken by specific marks of punctuation, by rubrications, and by blanks. Only exceptional devices, such as the “cartouche” (Gardiner 1957, 74), can delimit discrete units within the unbroken succession of signs.

- Harmony: the hieroglyphs occupy a whole cadrat or a regular subdivision—vertical or horizontal—(half, third, quarter, etc.) according to its morphology (Lacau 1954, 10).

Examples of Arrangements

Let us consider the hieroglyphs implemented in a spelling of the word “Egypt,” in Egyptian “the Black one,” referring to the soil of the Nile Valley. In a straight row, they would run as seen in Table I.1.1.17. In Egyptian practice, they are laid out in an arrangement that is half a cadrat plus one cadrat or even sometimes in an arrangement that is one cadrat (Table I.1.1.18).

Let us now consider the hieroglyphic arrangement of a longer statement that can be translated “after they have made their monuments.” In straight row, the sequence would be as shown in Table I.1.1.19. According to the principles that rule layout, the sequence might be arranged as shown in Table I.1.1.20.

Other arrangements are possible. Contrary to Mayan script, a cadrat does not necessarily match a linguistic unity. Except for the two basic requirements of harmony and density, there are no strict rules in laying out the cadrats, but rather traditions depending on the period and regarding the nature of the writing surface, local style, and scribal mastery, among other factors. For instance, beginning with the Amarna Period, there is a trend to arrangement in rectangular cadrats rather than in square ones (Klotz 2014–2015, 99).

Constraints of Orientation Governing the Hieroglyphs and the Direction of Reading

Many hieroglyphs have a symmetrical morphology. Consider the jar (N24), water (N35), door bolt (O34), and game board (Y5) in Table I.1.1.19–20. They can be divided in two (p. 22) wholly identical halves, mirroring each other, by a vertical axis cutting them in the middle. But many others have an asymmetrical morphology. For instance, returning to Table I.1.1.A, it is clear that the sign depicting the arm holding a jar (D39) shows no symmetrical morphology. It has a front and a rear. One would be prone to take the hand holding a globular bowl as the front, and the right angle of the elbow as the rear. Be that as it may, the sign has a prevailing orientation.

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The orientation is particularly conspicuous for the signs representing animates, when their heads are in profile view, which is most frequently the case. Asymmetrical signs cannot be displayed without regard to their prevailing orientation. Basically, they should look toward the beginning of the text, thus fronting the direction in which the text is to be read (Gracia Zamacona 2015, 12). When they look toward the left, the text is to be read from left to right. When they look toward the right, the text is to be read from right to left.

Consider Figure I.1.1: The seated woman with a vulture-shaped headdress and the vulture standing on a basket are facing left, which means that the section of text to which they belong reads left to right. The elephant and ram are facing right, which means that the section of text to which they belong reads right to left. As for the hieroglyph representing a quail chick, it faces right in the section of text reading right to left, and it faces left in the section of text reading left to right.

The rule holds for texts in lines as well as for texts in columns. Thus, hieroglyphic texts can be displayed in four basic directions, corresponding to four basic textual formats.

- From right to left in a row
- From right to left and downward in a column
- From left to right in a row
- From left to right and downward in a column

Table I.1.1.B shows the same text displayed in the four basic directions. However, the right-to-left direction of reading remained dominant (Fischer 1977b), as the tachygraphies (the so-called cursives), hieratic and demotic, show, as they are always to be read right to left.

Row Versus Column

In Table I.1.1.B, one can see that sometimes the arrangements in cadrats of the same group of hieroglyphs may be different in a line and in a column. For instance, the head in profile and the stroke are more susceptible to be laid out in a vertical half cadrat in a line and in a horizontal half cadrat in a column, although this is not a strict rule.

Image and Word Orientation

In a caption pertaining to the representation of a man or a god, the signs with asymmetrical morphology should face the same direction as the representation. If the representations look to the right, the hieroglyphs should look to the right, and the text is to be read right to left. The reverse is also true.

(p. 23) Let us return to Figure I.1.2. One can see that above the kneeling king, who is looking to the left, the asymmetrical hieroglyphs of the caption are oriented to the left: the duck, ibis, and cobra (G39, G26, I10) for the animates, the flag (R8) for the inanimates. Conversely, above the sitting god Amun, who is looking to the right, the asymmetrical hieroglyphs of the caption are oriented to the right: the horned viper and leg and

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foot (I9, D58) for the animates (or part of animates), the scepter and reed leaf (S40, M17) for the inanimates.

Retrograde Texts

Now, this rule may raise a semiotic difficulty: when a caption expresses what a depicted individual is saying to another one facing him or her, according to the standard rule, the text runs toward the speaker, and backward to the addressee. When the text is very long, this may appear contradictory. So, there is a fifth possible direction, the “retrograde” direction, mainly used in texts displayed in columns. In this textual format, originally limited to religious compositions (Goelet 2010; Gracia Zamacona 2015, 10–11), the text is to be read in the same direction in which the asymmetrical hieroglyphs are facing, so that they face away from the beginning. Table I.1.1.C shows this retrograde arrangement.

- The columns are to be read from left to right (column 1, then column 2).
- However, the asymmetrical signs are looking toward the right, facing away from the beginning of the text, thus in contradiction to the basic rule (e.g., the seated humans, animals, and body parts for the animates (and parts of them) and the flag and staff, among others, for the inanimates).
- Within the cadrats that involve several signs, these signs are to be read from right to left: for instance in the word *jstw*, the reed leaf (M17) should be read first, then the folded cloth (S29), then the group bread loaf+curl (X1, Z7).

Exploiting the Specific Potentialities of Hieroglyphic Script

The basic function of a script is to render language visible. In so doing, there is unavoidably both deficit and excess. There is deficit in that the script hardly renders suprasegmental features (intonation, accent, etc.). There is excess in that it brings specific connotations to the information conveyed by these productions due to the adaptation from the phonic to the visual. The importance of the connotations depends on the specific expressive capacities of the script. They are extremely rich in the hieroglyphic script due to its flexible manner of investing its writing surfaces, its figurativity, and its complex system of encoding the linguistic data. They have been developed accordingly to produce semiotic effects (Vernus 1987; 2012a, 68–70).

(p. 24) Reversals

A specific connotation may arise when the succession of some script signs does not match the linguistic unity they encode. This is often illustrated by the so-called honorific anticipation or honorific transposition. In Egyptian, a phrase such as “like Re” involves first the preposition *mj* (= “like”) (W19) and then *r'* (= Re) (N5, Z1), that is to say, *mj r'*. Now, the linearity of the utterance is not transposed in its graphic rendering, which shows the sun disk and stroke in the first position in the rightward direction of reading and the sun disk

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and stroke in the second position in the leftward one. The group for Re (N5, Z1) should precede the hieroglyph for “like” (W19) as a mark of respect for the god.

Many semiotic effects are available from the use of different textual formats in the same unity. Play on the orientation of hieroglyphs is not uncommon, particularly the “reversal” device, which consists in giving to a sign, or a group of signs, an orientation contrary to the dominant one. Sometimes it merely suggests graphically what is expressed linguistically. Such is the case in the group “worshipping Osiris,” where the sign “worshipping” (A30) is in reversed orientation vis-à-vis the sign “Osiris” (Clère 1987, 11; for other examples, Kurth 2007, 97–98). The different cases of reversals, often with demarcative or vocative meaning, were thoroughly studied by Fischer (1977b).

Orientation with Regard to Architecture

Through their different textual formats, hieroglyphic inscriptions, far from using a monument as a mere surface of display, can be influenced by the structure of the monument. Let us consider, for instance, how the texts are laid out on a temple doorframe (Table I. 1.1.D).

On the lintel, there are three lines each divided into two sections with the same text in opposite orientations. In the left part, the asymmetrical hieroglyphs are oriented to the right and the text is to be read from right to left. On the right side, the asymmetrical hieroglyphs are oriented to the left and the text is to be read left to right. Thus, each text mirrors the other. Moreover, the *ankh* signs are common to them in each line, and their superimposition in the middle axis divides the gate into two symmetrical halves.

On each jamb, there is a column of text. On the left jamb, the asymmetrical hieroglyphs are rightward oriented and the virtual cadrats are to be read right to left. On the right jamb, it is the other way around. Once again, each text mirrors the other.

Thus, the layout of the inscription highlights the basic symmetrical structure of the gate, consisting of two mirroring halves divided by a central vertical axis. This would have been clearly impossible with European scripts.

Hieroglyph-Image Link

The original link between hieroglyph and image remains always present and is susceptible to be reactivated. Sometimes, the standard form of a hieroglyph in a caption is modified (p. 25) because of the representation to which it is attached. In a scene from the temple of Seti I at Abydos, the king is depicted lassoing a galloping wild bull. In the caption, the hieroglyph of the bull, far from showing the usual form (E2), is depicted galloping!

An element of a representation can function as a script sign. It is well established, for instance, that mainly in the Old Kingdom (Fischer 1973, 1977b, 3–4), but also sometimes later (Schenkel 2011, 131; Van Essche 1997a, 204–205), an element of the representation

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substitutes for an expected but absent hieroglyph in the spelling of a word belonging to the caption.

Decalibration

As much as a representation can fulfill the role of a sign from a text, a sign from a text can be transferred to the status of representation. Often, this particular status is marked by decalibration, when the enlarged hieroglyph is no longer subject to the constraints that governed its proportions. The enlarged ideogram of Anubis in Old Kingdom inscriptions is a classic instance (Fischer 1976b, 35–36; Harpur 1987, 47n42), as is the decalibration of the falcon hieroglyph (G5 or G5 wearing S5) introducing the so-called Horus name of the pharaoh (Van Essche 1997b). Not infrequently, the determinatives or classifiers of a god's name (El Hawary 2010, Bild 17, col. 48) or of a private name (Silverman 1997, 278–279, no 95) are enlarged and close a column, sometimes after a blank, so as to underscore their status as image.

Details

Reactivating and enhancing the original image value of a hieroglyph can rely not only on decalibration but also on providing it with an outstanding richness of detail that makes it break out of its standard form. For instance, on a sarcophagus, the *qrs.t* ideogram, meaning “burial,” exceptionally encompasses a picture of a burying scene (Goldwasser 2009, 349). In some Ramesses II's architraves, the different occurrences of the ideogram for *w'f* “subjugate” are each given a very particular detailed treatment involving a definite ethnic type (Van Essche 1997a, 211). Moreover, sometimes the pictorial promotion of the sign is highlighted by its encapsulating its own caption, according to a very sophisticated device, implemented elsewhere in temple inscriptions (Vernus 1987, 64–65 and fig. 5).

Developing original figurativity may involve not only a single hieroglyph but also long sequences of hieroglyphs, according to a trend more or less restricted during the Pharaonic Period and illustrated by some productions of the so-called sportive or enigmatic writing (Darnell 2004, 14–34), also clumsily labeled “cryptography.”

The trend dramatically developed during the Greco-Roman Period. In particular parts of the temple, certain texts were composed in hieroglyphs deliberately chosen to build a purely pictorial discourse that is parallel to the linguistic discourse they convey (p. 26) as script signs (basically Sauneron 1982). This trend reached its climax in hymns to ram and crocodile deities that overwhelmingly implement hieroglyphs depicting rams or crocodiles to signify things other than rams and crocodiles (Leitz 2001)!

A Script Adapted to Object and Monuments

Due to its interplay with figural representations and to its multidirectionality, hieroglyphic script is prone to “decorative” uses on objects or monuments (Fischer 1986). Its birth in the proto-Thinite period, around 3150 BCE, was triggered, at least partly, by the need

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to actualize the name of the sovereign, and secondarily other names, in the iconic apparatus, thus, claiming his domination (Vernus 2011). At the beginning of the First Dynasty, the writing system appears fully constituted (Kahl 2001). It already functioned by implementing two major categories of signs: consonantal phonograms and semograms. The latter are subdivided between logograms/radicograms/ideograms, or signs possessing both phonetic and semantic components, and determinatives or classifiers, or signs that are purely semantic and devoid of phonetic content. (For the functional classifications in the writing system, see Polis and Rosmorduc 2015 with a thorough bibliography.)

However complete the writing system appeared in the late fourth millennium, four centuries after its birth the hieroglyphic script still remained restricted to “label statements,” that is, phrases that do not involve a complete predication. Their partial meanings either find their completions in the object which they have for support, for instance, a proper name of an object indicating the person to which it belongs, to which it is consecrated, by which it is offered, its date with respect to ideological events in the case of tags, etc., or their partial meanings are complemented by representations for which they serve as captions.

Uses

From the end of the Second Dynasty onward (Morenz 2002), the script began to encode self-contained texts, including complete sentences, whose meanings were intended to be completed by the objects or monuments on which they are written or by the representations to which they are annexed. Not taking into account its derived tachygraphies, the hieratic and, later, the demotic, hieroglyphic script became more and more extensively implemented in three main domains that unavoidably overlapped.

1. Monumental expressions of religion: temple cults and rituals, mortuary religion, and everyday religious practices, including magic.
- (p. 27) 2. Monumental expression of the king’s ideological activity: building inscriptions, military records, annals, royal commands, etc.
3. Self-presentations of nonroyal individuals: tomb inscriptions, autobiographies, inscriptions on votive monuments.

If hieroglyphic script was used overwhelmingly in these kinds of texts, it is because it was supposed to possess a performative power, being originally “divine words” (*mdw ntr*). Thus, the script was particularly appropriate to “sacralize” the texts, that is to say, to associate them with creation (Vernus 2017).

Post-Third Century BCE

The end of the Pharaonic Period in the mid-fourth century BCE did not bring about the disappearance of hieroglyphic script. To the contrary, the script was deemed the ultimate expression of the Egyptian *Weltanschauung* and the instrument through which one could access the secret principles that rule the world. Its enormous potentialities were systematically developed. The number of hieroglyphs and the number of values attributed to

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each of them dramatically increased (Kurth 2007) as a result of an intense sacerdotal work for which Sauneron (1982) coined the felicitous expression “*philologie sacrée*.” (See also earlier, “Details.”)

The Roman emperors’ conversion to Christianity in 392 CE forced the closure of pagan temples and thus of the places where hieroglyphic script was mastered. The last known hieroglyphic text is dated from 394 CE, while demotic survived until the first half of the fifth century CE (Dijkstra 2011, 61–62).

Meroitic

Although the standard Meroitic script, which was used in the Sudan since the end of the third century BCE, borrows its inventory of signs from Demotic, there is a hieroglyphic Meroitic script, restricted to monumental uses, that implements many Egyptian hieroglyphs. Both involve the same basic syllabic system (Rilly 2007).

Of paramount importance is the borrowing of many hieroglyphs by the so-called Proto-Sinaitic script, an alphabetic script that was used by Semitic people serving the Egyptians from the end of the nineteenth century BCE onward (Darnell et al. 2005). Each of these hieroglyphs was given, as a phonetic value, the first consonant of the Semitic word naming what the hieroglyph depicted (Goldwasser 2012; Vernus 2015). For instance, the Egyptian hieroglyph of the ox head (F1) was given the value ‘ (*aleph*) since it depicts an ox, which is ‘*lp* in West Semitic languages. Proto-Sinaitic script was the source of the Hebrew and Phoenician alphabets and then, via the Greeks, of the European alphabet. Thus, many modern characters are ultimately rooted in Egyptian hieroglyphs!

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