

The Hieroglyphic Sign Functions¹

Suggestions for a Revised Taxonomy

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Abstract

The aim of this paper is to suggest a taxonomy that allows for a systematic description of the functions that can be fulfilled by hieroglyphic signs. Taking as a point of departure the insights of several studies that have been published on the topic since Champollion, we suggest that three key-features – namely, semography, phonemography and autonomy – are needed in order to provide a description of the glottic functions of the ancient Egyptian graphemes. Combining these paradigmatic and syntagmatic features, six core functions can be identified for the hieroglyphic signs: they may behave as pictograms, logograms, phonograms, classifiers, radicograms or interpretants. In a second step, we provide a definition for each function and discuss examples that illustrate the fuzziness between these core semiotic categories.

The understanding of the functions of the signs² in the hieroglyphic writing system³ has been an issue ever since knowledge of this script was lost during Late Antiquity. If ancient authors

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- 1 We are grateful to Todd Gillen, Eitan Grossman, Matthias Müller, Wolfgang Schenkel, Sami Uljas and Jean Winand for their critical comments and suggestions on earlier drafts of this paper.
 - 2 In this paper, we focus exclusively on the so-called “glottic” functions (see e.g. Harris 2000) of the ancient Egyptian writing system, i.e., on the writing system viewed as a means of communicating linguistic content. It should be stressed that “[t]hat the notions of logograms, classifiers, phonograms, and interpretants [etc. used throughout this paper] refer to possible functions fulfilled by the tokens of particular graphemes according to their distribution and do not define inherent qualities of the signs” (Lincke/Kammerzell 2012: 59); see already Schenkel’s (1984: 714–718) and Kammerzell’s (2009) ‘Zeichenfunktionsklasse.’
 - 3 Regarding the various possible approaches to this complex writing system, see Schenkel (1971: 85). Classical introductions to the hieroglyphic script include Sethe (1935), Davies (1987), Schenkel (2003) and Altenmüller (2011). On the emergence, development and functioning of the hieroglyphic system, see especially Gardiner (1915), Kahl (1994), Kaplony (1966), Lacau (1954), Scharff (1942), Sethe (1939), Schott (1951), Stauder (2010), Vernus (1993; 2011); Schenkel’s criticism (1971: 88–90) of the ‘Stammbaum’ approach by e.g. Gardiner (1915) and Kaplony (1966) could hardly be phrased better nowadays. On the political and cultural context surrounding the origins of writing in Egypt, see Baines (2007), Morenz (2004, 2013), Winand (2013b). For a semiotic approach to the hieroglyphic writing system, see Goldwasser (1995a; 2002) and, of course, Loprieno (2001; 2003a; 2003b; 2007; 2011).

like Chaeremon, Clement of Alexandria or Horapollo were still aware of the meaning of some hieroglyphs, they were unable to correctly explain *why* these signs had such meanings; as such, accounting for the functions of the signs in this writing system has long been problematic, mainly due to the weight of the traditional *interpretatio graeca* or *figurative interpretation* of the hieroglyphs.⁴

1 Champollion and the functions of hieroglyphs

Jean-François Champollion's famous *Lettre à M. Dacier relative à l'alphabet des hiéroglyphes phonétiques* (1822) was to change this state of affair, when he identified signs "doués de la faculté d'exprimer des sons". His breakthrough discovery, however, did not lead straight to a fixed description of the functions of the hieroglyphic signs: Champollion's understanding of the functions of hieroglyphic signs was still to evolve.⁵

In his *Précis du système hiéroglyphique*, Champollion (1824: xiv) states that: "les mots coptes qui, dans une transcription quelconque, sont placés entre deux parenthèses, n'expriment que le mot égyptien correspondant à un signe ou à un groupe hiéroglyphique, lequel étant idéographique et non phonétique, ne rendait point de son". To put it otherwise, in this first synthesis on the hieroglyphic writing system, Champollion considers that any *graphemic* signifier (informally 'sign, hieroglyph') refers either to a linguistic *signified* (i.e. some content) or to a linguistic *signifier* (i.e. some phonological shape, informally 'sound'), these two options being mutually exclusive.⁶ This understanding of the functions of hieroglyphs is summed up in the following figure:

		<i>Graphemic signifier</i>	
		"Ideogram"	"Phonogram"
Linguistic sign	[-signifier]	[+signified]	[-signified]
	[+signified]	[-signified]	[+signifier]

Fig. 1 Ideogram vs phonogram in Champollion's *Précis*

He further divides the "ideogram" category in two subcategories, according to the relation that is perceived between the *graphemic* signifier and the *linguistic* signified. Champollion (1824: 313–314) sums up his ideas as follows: "les uns, les *caractères figuratifs*, exprimaient

4 See the overview in Winand (2014).

5 On the evolution of Champollion's description of the hieroglyphic system, see the discussion by Depuydt (1995).

6 This point is also made clear in Champollion's chapter "*Des Caractères Phonétiques*" (1824: 304): "Nous ne saurions, en effet, admettre comme possible l'existence d'une écriture *totale*ment idéographique, qui, par le secours des seuls caractères *figuratifs* ou *symboliques*, marcherait de paire avec une langue bien faite et rivaliserait avec elle en clarté dans l'art d'exprimer des idées." The very *raison d'être* of the phonetic signs is "de compléter leur système d'écriture en le rattachant à leur langue parlée." As pointed out by Depuydt (1995: 6), "[a]s a result, ideograms and determinatives seem almost identical in function in the *Précis*."

directement les objets mêmes dont ils retraçaient l’image; les autres, les *caractères tropiques* ou *symboliques*, exprimaient indirectement des idées avec lesquelles l’objet qu’ils imitaient dans leur forme n’avait que des rapports fort éloignés; et les caractères phonétiques n’exprimaient ni directement ni indirectement des idées, mais seulement des voix et des articulations simples”.

	<i>Graphemic signifier</i>	
	“Ideogram”	“Phonogram”
<i>Linguistic sign</i>	[–signifier]	[+signifier]
	[+signified]	[–signified]
	Direct Relation	Indirect Relation
	“figurative” ⁷	“symbolic” ⁸

Fig. 2 The three types of *caractères* in Champollion’s *Précis*

Two types of features are here taken into account by Champollion for describing the functions of the hieroglyphs: (1) to what element of the linguistic sign does a hieroglyph refer (the signified or the signifier)? (2) what is the relationship between the hieroglyphic sign (understood as an icon) and the linguistic signified? Both of these dimensions, as we will see, have played a crucial role in all subsequent accounts of the functions of hieroglyphs.

In his posthumously published *Grammaire égyptienne*, Champollion (1836: 22, §48) still acknowledged the existence of three classes of hieroglyphic signs: “1° Les caractères *mimiques* ou FIGURATIFS; 2° Les caractères *tropiques* ou SYMBOLIQUES; 3° Les caractères *phonétiques* ou SIGNES DE SON.”



Fig. 3 An illustration of the three categories of signs according to Champollion (1836: 47; *figurative* = red; *tropique* = blue; *phonetic* = yellow)

As rightly pointed out by Depuydt (1995: 6–9), however, Champollion changed his mind regarding the possible link between ideograms and the spoken realm:

7 Among the *caractères figuratifs*, Champollion (1824: 278) distinguishes three classes: “Les caractères *figuratifs propres*” (a drawing of the thing itself according to the ancient Egyptian rules of representation), “Les caractères *figuratifs abrégés*” (like a plan, □, for the house), “Les caractères *figuratifs conventionnels*” (like the sign ☰, for the sky).

8 According to Champollion (1824: 282-sq.), the so-called “symbolic” relationship can be defined as (1) a “*synecdoche*” (e.g. “*un vase duquel s’échappe de l’eau, une libation*”, p. 290), a “*métonymie*” (cause for effect, e.g. the crescent moon for ‘month’), by “*métaphore*” (e.g. forepart of lion for strength), by “*énigmes*” (e.g. the vulture for mother).

“68. Puisque la plus grande portion de tout texte hiéroglyphique consiste en signes phonétiques, l’écriture sacrée fut en liaison directe avec la langue parlée, car la plupart des signes de l’écriture représentaient les sons de la langue orale. 69. La même liaison, mais moins directe, exista également entre la langue parlée et les caractères *figuratifs* ou *mimiques*, parce que chacun d’eux répondait à un mot de la langue, signe oral de l’objet dont le caractère présentait l’image; le *mot* devait donc habituellement servir de prononciation au caractère *image* [exemples]. 70. Il en fut de même quant aux caractères *tropiques* ou *symboliques*: on attacha, pour ainsi dire, à chacun de ces signes un *mot* de la langue parlée, exprimant par *le son* précisément la même *idée* que le caractère rappelait, soit par synecdoche, soit par métonymie, ou au moyen d’une métaphore” (1836: 48, §68–70).

This means that, in his *Grammaire égyptienne*, Champollion suggests that the ideograms are also linked, although less directly, to a linguistic signifier. This can be captured graphically as follows:

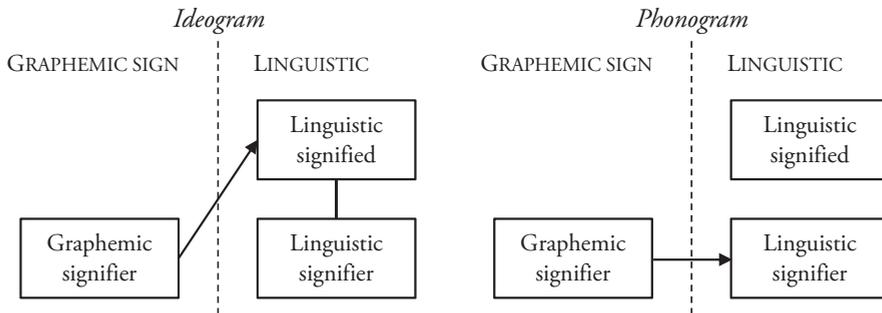


Fig. 4 Ideogram vs Phonogram in Champollion’s *Grammaire*

If a hieroglyph (*graphemic signifier*) is an ideogram, its *signified* is some content (*linguistic signified*), which is itself linked to some phonological shape (*linguistic signifier*) – Martinet’s first articulation.⁹ If a hieroglyph (*graphemic signifier*) is a phonogram, then its *signified* is some phonological shape (part of the *linguistic signifier*), without any necessary link to some content (*linguistic signified*) – Martinet’s second articulation.¹⁰

9 See the discussion in Loprieno (2003a) who provides examples highlighting how the ancient Egyptian writing system allows one to play with the two articulations of the language, with individual graphemes playing on both levels at once. In connection with this topic, see Beau’s (2009: 246–248) comments regarding the divinities Hu and Sia, who manifest two complementary dimensions in the ancient Egyptian conception of language, namely ‘enunciation’ and ‘conceptualization’.

10 This is the understanding of ideograms vs phonograms endorsed by Schenkel (2012: 35–36). See already the comments of Depuydt (1994: 19): “the functions of ideograms and phonograms are not as nearly parallel as these traditional definitions may suggest. Indeed, in addition to being meaning-signs, ideograms also express sound, because each ideogram is associated with a certain pronunciation.” Similarly in Depuydt (1995: 3).

Finally, Champollion (1836: 109, §111), in his chapter V “*Des noms propres et de leurs déterminatifs*”, makes it clear that the determinatives (= classifiers) do not belong to the “*caractères figuratifs*” (as was the case in his *Précis*), when he states that “111. Les noms propres véritablement égyptiens (...) se composaient (...) de deux parties bien distinctes : 1° Des signes ou groupes, soit *phonétiques*, soit *symboliques* ou même *figuratifs*, qui constituent le nom lui-même; 2° D’un caractère déterminatif du genre auquel appartient l’espèce de l’individu désigné par le nom propre.” Therefore, besides the hieroglyphs in a direct relationship with the linguistic sign, another class is to be considered which includes the hieroglyph occurring in a second, distinct, part of the word and somehow “determining” the word written before.

Champollion’s analysis of hieroglyphic signs paved the way for two different types of description of the functions fulfilled by the graphemes in the ancient Egyptian writing system: some scholars acknowledge the existence of *two* main functions (§2 below), while others are rather of the opinion that *three* basic functions should be acknowledged (§3 below, see also Schenkel 1971: 86). As we will see, both options are nowadays widespread in teaching grammars and general descriptions of the hieroglyphic writing system.¹¹

2 The dual view: ideogram [+meaning] vs phonogram [+sound]

The dual view has been advocated by, e. g., Sethe (1908, 1935) and Gardiner (1957). As argued by the latter¹² (1957: 8, §6), “[e]ven in the fully developed form of hieroglyphic writing only two classes of signs need be clearly distinguished. These are: (1) sense-signs or ideograms (Greek *idea* ‘form’ and *gramma* ‘writing’);¹³ (2) sound-signs or phonograms (Greek *phonē* ‘sound’ and *gramma* ‘writing’).” In such approaches, determinatives are considered to be a kind of ideogram occurring at the end of the word and giving some indication about its meaning.¹⁴

<i>Graphemic signifier</i>	
“Ideogram”	“Phonogram”
[+signified]	[+signifier]
“Proper”	“Determinative”
[–end]	[+end]

Fig. 5 The dual view: Ideogram *vs* Phonogram

11 As is well known, the description of the functions of the hieroglyphs has even been a matter of controversy in this context, i. e., when it comes to deciding how the hieroglyphic writing system should be taught to beginners (see the debate between A. Erman and K. Sethe regarding the status of phonograms that refer to an entire signifier; cf. Sethe 1908).

12 On the evolution of Gardiner’s position regarding the precise definition of the term “ideogram”, see Depuydt (1994: 18–19).

13 Not “idea writing”, *pace* Allen (2010: 2). On this point see also the remarks in Depuydt (1994: 18 n. 4).

14 For recent advocates of this position, see, e. g., Allen (2010: 3).

As appears from Fig. 5, this dual view is implicitly similar to the position of Champollion in his *Précis* (see §2.1): since the “determinatives” are a special class of ideograms occurring at the end of a word, and given the fact that the same “determinatives” do not refer to any phoneme, “ideograms” have to be understood as *not* being linked to any linguistic signifiers.

Depuydt (1995: 3) clearly identified the need for a more careful analysis when he stated that it is customary to “provide balanced definitions of ideograms and phonograms: whereas ideograms refer to meaning, phonograms refer to sound [...] [t]his balanced definition, in spite of its tidiness and orderliness, is incomplete, because ideograms also express sounds. For example, the ideogram \square used to write the notion “house” in Egyptian also calls forth the sounds *pr*.”

3 The triadic organization of the hieroglyphic sign functions

The problem raised above can be addressed if one posits that each function is defined according to two features: [\pm meaning] and [\pm sound]. We then end up with three possible basic functions for hieroglyphs: a written sign can function as a phonogram, an ideogram, or a determinative, see Kaplony (1966), with previous literature. This approach is recently illustrated by Winand (2013a: 32), who proposes a table such as the following:

	MEANING	SOUND
Phonogram	–	+
Logogram/ Ideogram	+	+
Classifier/ Determinative	+	–

Fig. 6 Three basic functions of the hieroglyphic signs

There is actually little to argue against this description of the functions of hieroglyphic signs,¹⁵ except that it describes the semiotic system of writing without taking into account the syntagmatic dimension. As such, the definitions that can be inferred from a table such as Fig. 6 are in a way acceptable, but too vague for adequately covering the examples that would usually be described respectively as phonogram, ideogram and determinative (see §5 for further details).

4 Schenkel’s square of hieroglyphic functions

It was Schenkel who most clearly and systematically drew attention to this syntagmatic dimension – as part of the spatial configuration of the script – when he introduced the notion of “*Assoziogramm*” (Schenkel 1971: 92–93) or later made the distinction between uses of

15 As pointed out by a reviewer, one could obviously argue that the classifiers indirectly express a sound difference at the word level, since they are able to mark a difference between two homographic lexemes which are not homophones.

graphemic signifiers als “*Notation*” or “*Kennzeichnung*” (e.g. Schenkel 1984: 718–719; 1994: 42; 2003: 29–38; 2012). This distinction allows him to make a distinction between (a) the autonomous uses of hieroglyphic signs, which as ideograms/logograms or phonograms refer directly to the *linguistic sign*, and (b) the use of hieroglyphs as a means of disambiguating or refining the meaning (determinatives) or reading (phonetic complements) of *other graphemes* in the word or phrase to which they belong.

Combining these two features, Schenkel (1994: 42) systematized the description of four, previously identified, functions of the hieroglyphs,¹⁶ namely the categories “logogram”, “phonogram”, “determinative” and “phonetic complement”:¹⁷

	Semogramm	Phonogramm
Als Notation	Logogramm oder Ideogramm	Phonogramm
Als Kennzeichnung	Determinativ	Komplement

Fig. 7 Schenkel’s square of hieroglyphic functions

This approach to the function of hieroglyphic signs has been taken over by Kammerzell and Lincke (Kammerzell 1998: 21; 2004; Lincke 2011: 3, 151–152; Lincke/Kammerzell 2012: 59), who – in addition to a terminological *aggiornamento* – rephrased the opposition between “Notation” and “Kennzeichnung” in terms of autonomy:¹⁸ classifiers and interpretants (as opposed to logograms and phonograms) are not autonomous, but rather enter into complex syntagmatic relationships with other graphemes inside ‘the written word’ (what Schenkel has labeled the ‘schematogram’¹⁹):

16 Schweitzer (2005: 31) suggested to replace the label “Notation” by “bedeutungshaltig”. As noted by Schweitzer (*Ibid.*), “[d]ie beiden Leitdifferenzen operieren auf verschiedenen Ebene: Kennzeichnend beschreibt nur das Verhalten der Zeichen untereinander, während bedeutungshaltig auf die Korrelation der Zeichenebene mit anderen Ebenen verweist.”

17 This label is already used in Gardiner (1915: 70).

18 It should be noted that Schweitzer (2005) suggested an alternative (“Humboldtian”, see Kammerzell 1993) model for the hieroglyphic script based exclusively on syntagmatic properties of the hieroglyphs, his goal being to define classes of written hieroglyphic signs (crucially not *functions*). He developed a system within which each sign is assigned to a single class. The criteria that he takes into account are: (1) does the sign have a fixed position inside the word or not? (2) If not, can it be used (a) independently and be extended or not? (b) Can it be used dependently or not? Combining these criteria lead Schweitzer to acknowledge the existence of 6 main classes of signs among the logically possible combinations of features.

19 Schenkel (1971: 91) “Die Schriftzeichengruppe, die eine Wortform darstellt, sei Schematogramm genannt.”

	[+meaningful]	[-meaningful]
[+autonomous]	logograms (inaccurately: “ideograms”)	phonograms (in the narrower sense)
[-autonomous]	classifiers (inaccurately: “determinatives”)	interpretants (“phonetic complements”)
	semograms	phonograms (in the wider sense)

Fig. 8 Kammerzell & Lincke’s reformulation of Schenkel’s square

In addition to a clear definition of the term for the super-category *semograms* [+MEANINGFUL], such a description has several advantages, among which are the following: (1) each class of function is defined by a combination of two features, [±MEANINGFUL] and [±AUTONOMOUS]; (2) all the (logically possible) combinations of features are attested. This leads to a model for describing the functions of hieroglyphs that is both internally coherent and logically consistent.

However, in terms of experiential adequacy, this model turns out to be problematic, since some classes of function (such as the radicograms, see §6.5 below) might not be ideally described with it. We suggest that this is eventually linked to the fact that the *phonemographic* dimension of the ancient Egyptian writing system is not properly acknowledged in Kammerzell & Lincke’s model.²⁰ To put it otherwise, the phonograms and interpretants are only defined negatively, as [-MEANINGFUL], but no reference is made to their ability to index distinctive pieces of phonological structure. The same remark obviously holds for the characterization of the logograms: they are defined as [+MEANINGFUL], but the model does not relate them, even indirectly (see the discussion in §1–2), to any phonematic form.

As we have seen above (§3), triadic descriptions of the hieroglyphic functions address this problem. One can conveniently refer here to the tree-like representation in Morenz (2004: 19), which shows explicitly that the *semograms* share two properties – they are at the same time ‘Bedeutungszeichen’ and are linked to some ‘Laut’ – and that the phonograms denote some ‘first articulation’ piece of phonological structure.

20 The same criticism does not apply directly to Schenkel’s model, since he defines both semograms and phonograms positively. Accordingly, the semograms are “Begriffszeichen, d.h. Zeichen, die zur Notation einer semantischen Komponente der ägyptische Sprache dienen”, i. e. [+MEANINGFUL], while phonograms are “Lautzeichen, d.h. Zeichen, die zur Notation eines Phonem(-Komplexe)s dienen”, i. e. [+PHONEMOGRAPHIC].

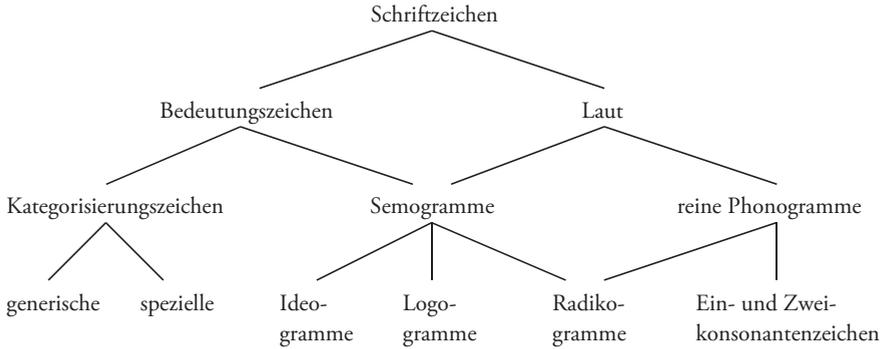


Fig. 9 Morenz' tree of hieroglyphic functions

The definition of “Ideogramme”, “Logogramme”, and “Radikogramme” are not explicit in Morenz' tree (2004: 19), but one can safely assume that the goal is to introduce a kind of fluidity between broad semiotic categories such as semograms and phonograms that are not always easy to distinguish in practice (see Morenz 2004: 19 n. 64). However, this representation fails to identify precisely what feature distinguishes, for example, logograms from radicograms, and does not do justice to the syntagmatic analysis of the hieroglyphic writing system.

5 Suggestion for a revised taxonomy

At this point, a rather straightforward solution to the issues underlined in §3 and §4 suggests itself. As a semiotic system, the hieroglyphic writing system should ideally be described according to both paradigmatic and syntagmatic features. For systematizing the description of the glottic functions of the hieroglyphic signs, it is therefore enough to combine the relevant features identified above and to answer three questions (that correspond to three polar features): *in a given syntagmatic environment*, (1) does the hieroglyphic sign (graphemic signifier) express some content [+SEMOGRAM] or not [-SEMOGRAM]? (2) does it refer to some linguistic form [+PHONEMOGRAM] or not [-PHONEMOGRAM]? (3) does this hieroglyphic sign function autonomously [+AUTONOMOUS] in the written word (i. e. Schenkel's schematogram), or does it make sense *in relation* to other graphemes or signified [-AUTONOMOUS]?²¹ The glottic functions of the ancient Egyptian writing system can accordingly be summarized as follows:

	+ SEMOGRAM		- SEMOGRAM
AUTONOMOUS	Pictogram	Logogram	Phonogram
NON-AUTONOMOUS	Classifier	Radicogram	Interpretant
	- PHONEMOGRAM		+ PHONEMOGRAM

Fig. 10 A taxonomy of the hieroglyphic sign functions

21 The difficult notion of autonomy is discussed further in §7.

This model is consistent as well as internally coherent, and it can be tested in terms of experiential adequacy, since it offers explicit definitions for analyzing the variety of functions attested for hieroglyphic graphemes in context. As such, it can easily be falsified based on empirical evidence.

Furthermore, this taxonomy clearly shows the complementarity between the concept of *semography* and *phonemography*, with two classes, namely the categories of logograms and of radicograms, participating in both.²²

6 The six functions of hieroglyphic signs: Exploring graphemic fuzziness

We can now proceed with a discussion of the definition of the functions posited in the taxonomy of the previous section, based on short case studies²³ that are meant to illustrate both the core and limits of these six categories,²⁴ by confronting the admittedly *etic* semiotic categorization of §5 with empirical gradience. Indeed, as argued by Loprieno (2003a), the *emic* “iconocentrism” characteristic of the ancient Egyptian culture mediates between the semographic and phomographic realms, blurring the boundaries of our modern classifications.

6.1 Pictograms

DEFINITION: [+AUTONOMOUS], [+SEMOTIC], [-PHONEMOTIC]

At first sight, including the pictograms in a taxonomy of hieroglyphic sign functions might look like a suspicious attempt to fill in an empty cell in the table of Fig. 10. However, (a) the obvious links between writing and other systems of visual communication in Ancient Egypt (with shared rules of representations, see e.g. Fischer (1986)), (b) the pictographic origin of the hieroglyphic script (with gradual indexation of the linguistic signs)²⁵, and (c) the (subsequent) functional contiguity between pictograms and logograms (see below), do – in our view – amply justify this choice.²⁶

22 Cf. Hyman (2006) who views “glottography [= our phonemography] not as a *type* of writing but rather as a *function* of one *subsystem* within the system of writing.”

23 Note that throughout this section, hieroglyphic signs are defined functionally, not depending on the number of iconic elements they are made of (cf. Schenkel 1994: 37–38). See already the examples quoted by Lacau (1954: e.g., 81, 131). One particular point to take into account about sign values is that groups of graphemes can acquire a value of their own. The topical example is , for *mw-hr-nw* = *m-hnw* “inside”.

24 As noted by Lincke/Kammerzell (2012: 59) “in some distributions it is quite often not possible to determine unambiguously the actual function class the token of a grapheme belongs to.” This point, which is illustrated below in §6, is unproblematic from a theoretical point of view: several competing descriptions of a token can of course be argued for, depending on the period, textual environments, etc. The model only needs to provide explicit ways of describing these functions.

25 See the literature in n. 3.

26 In relation to pictograms, it is worth stressing the fact that the primary function of writing is certainly not to render speech, but to communicate some content.

The body of literature on pictograms in Ancient Egypt is extensive.²⁷ However, it should first be stressed that studies on the topic usually focus on *non-textual* graphemes; furthermore, it is not immediately obvious that all the examples studied under this label would meet the definition suggested here for pictograms. Both points are discussed below.

Let's take as a first example the famous "funny signs", or better, "identity marks" from Deir el-Medina. In the definition adopted here, pictograms are explicitly characterized among the autonomous semograms as *not* being linked to a fixed sequence of phonemes: rather, the "reading" of pictograms must have the character of a paraphrase, with different possible verbal realizations. Based on the shared scholarly interpretation of these identity marks, one might consider that they do not fit the [- PHONEMOGRAM] feature of pictograms, and should rather be analyzed as logograms. For instance, the sign  was – at some point during the twentieth dynasty – the mark referring to the workman Meryre, see e.g. Haring (2009: 149). In that capacity and in this context, it had both one meaning and reference, as well as one associated reading.²⁸ Such identity marks are however different from prototypical logograms in a number of ways. First, their value is limited to a certain time and space, i.e., not shared among the whole literate community in Ancient Egypt: when the user of a specific mark in Deir el-Medina was not in office anymore, his sign was usually reused by someone else (presumably, but not always, another member of the family). The value of such signs was thus somehow transient. Second, these marks were not usable in all contexts. They appear mostly on objects, as a kind of personal label, and in lists, but also on duty rosters,²⁹ which clearly shows that they could make it into the textual realms, even if not mixing freely with writing.

One step further in this direction, some examples show that pictograms can be fully integrated within the writing system, even when one is dealing with the admittedly less iconic types of cursive hieratic. In some hieratic texts, indeed, objects (mainly amulets) can be designated by their drawings. Such is the case in a letter sent by Butehamon to his father Dje-hutyemose (P. BM EA 10411, v^o 3–4 = *LRLC* pl. 4), where one finds the following sentence:

27 See the studies in Andrassy/Budka/Kammerzell (2009) and Haring/Kaper (2009).

28 In this respect, one can notice here that there is not infrequently a phonemographic motivation between the hieroglyphic reading of the identity mark and the name of the individual:  for Mose,  for Hori,  for Userhat,  for Meryre,  for Kasa, etc. (see e.g. Haring 2009: 149).

29 For identity marks in duty rosters of the twentieth dynasty, see e.g. Haring (2009: 147–152).



*jr*³⁰ *t3 md.t n p3* *j*³¹.*dj=j n=k jw=k m hnty hr t3y=k šc.t*

jr t3 md.t n p3 *j*.*dd=k n=j* “(j)n sw 3[q], (j)n sw m-dj=k” *hr=s* “j.h3b n=j”.

j.jr=j dj.t jw=se n=k m 3bd 1 šmw sw 2

Regarding the case of the hippopotamus amulet that I gave you when you were about to go southward (mentioned) in your letter, (and) regarding the case of the double-crown amulet about which you said to me “is it lost or is it in your possession?”, in it³², “write to me!”³³; it is on the first month of Shemou, day 2 that I made them (i. e. the amulets) come to you.

To quote Janssen³⁴ (*LRLC*, p. 14) “of course, amulets such as these two [Fig. 11] have no names”. It’s likely that the normal linguistic way to designate/verbalize such objects would have been to describe it, as is done, for instance, in the *Book of the Dead* in passages where amulets are involved. Consider for example Spell 89:  “to be spoken over a human-headed bird of gold inlaid with semi-precious stones” (Faulkner 1985: 90).³⁵



Fig. 11 Facsimile of the two amulets of P. BM EA 10411

A similar instance, but this time in hieroglyphic script, where we suspect that no simple expression was available at hand and that the scribe thought that a picture is worth a thousand words, occurs in the Manshihet eš-Šadr stela (*KRI* II, 361,11), where Ramses II says : *mḥ=j pr-R^c m špsw-ḥnḥ qn.w m tw.wt hr X hr Y*, which

30 The hand of the document is very cursive; a number of signs are rendered as 9 in Janssen’s publication, but are certainly better interpreted otherwise. In the case of the first words of those two lines, there is a general agreement that they are to be read *jr*.

31 A particle *jw* – whatever the actual analysis suggested for it – can hardly be justified from a grammatical point of view (*pace TLA ad loc.*). A prothetic yod is, in our view, much more likely. Two analyses are then possible: a relative form and a (modal) second tense. The latter, however, would require the restoration of a resumptive pronoun (see e. g. Cassonnet 2000: 36), which is why we opted for the former analysis.

32 The adverbial phrase *hr=s* is very probably to be equated with *hr t3y=k šc.t* in the first topicalization.

33 We consider this imperative form to be still a part of the quote from the letter of Djehuty-mose.

34 See further the comments in Goldwasser (1995b) and Sweeney (2001: 125 n. 163).

35 See the discussion of this example in Eschweiler (1994: 91–92).

Kitchen (*KRITA* II, 194) renders as, “I filled the temple of Re with numerous sphinxes, with statues, (of the type) prostrate offering a vase and (the type) kneeling making offering”.

Of course, the fact that modern translators are condemned to use paraphrases is no proof that the signs  and  had no precise phonetic rendering. The intended reading might as well have been something like “*hr sn-tʿ hr wdn*”, but both the existence of types of statues akin to those depicted in the glyphs and the complexity of their stance suggest that a precise reality was meant, for which a circumlocution is likely.

However, the boundary between pictographic and logographic uses of signs is not always easy to make for modern interpreters. For instance, in the famous Abydenian stela of Irtysen (Louvre C14, see Badawy 1961: 270), one finds the sentence  (l. 9–10). It is fairly easy to guess that the last sign,  (B24) means a woman's statue, as opposed to a man's, the translation being: “I know (how to render) the going of a male figure and the coming of a woman.” It looks actually quite close to the previous example. Indeed, the sign  stands alone, without the any kind of complement pointing to a logographic use (either the meta-sign Z1 or phonemographic interpretants). Yet, in that precise case, the word most probably associated with this hieroglyphic sign is known from other sources, where it stands as a logogram in the word *rp.wt*, “*woman-shaped statue*” (*Wb.* II, 415,13). This demonstrates that the limits between the two categories of autonomous semograms are somehow thin and critically depend on encyclopedic knowledge.

6.2 Logograms

DEFINITION: [+SEMOGRAM], [+PHONEMOGRAM], [+AUTONOMOUS]

Logograms are signs that are used for referring to an entire word, which means that they are linked simultaneously to both a linguistic signified (first articulation) and a linguistic signifier (second articulation). Some of the hieroglyphic signs used as logograms do have a direct iconic link with the linguistic referent, such as  (E20) in the writing of the name of the god *Sth* “Seth”, or  for *mʿj* “lion”, where this iconic link is rather obvious. In other cases, the value is derived both from tropes, which can be rooted in usual cognitive processes³⁶ (metaphors, metonymy, synecdoche, etc.) or in hieroglyphic conventions. In that respect, Lacau (1954: 54–61) showed that tilting a sign has the effect of modifying the value of a logogram. For example, the logogram  refers to the substantive *hd* “hedj-mace”, whereas  points to the action performed with this substantive, *sqr* “to strike”. Finally, some signs used as logograms have no apparent iconic relationship with their linguistic value (at least synchronically), such as  (G39) for the word *sʿ* “son”. In this specific case, one sits on the border between logograms and phonograms,³⁷ since the original phonogrammatic writing of “son” with  *s(i)*

36 Borghouts (2010: 48) provides a convenient list of the main types of relations between semograms and their referents. For a detailed discussion, see Lincke/Kutscher (2012).

37 On the frontier between these two categories and the different possible types of semantic relationships between some phonograms and their hieroglyphic representations, see the insightful study by Vernus (2003). For the case of *sʿ*, see more specifically Vernus (2003: 196; 212–213) who states

(derived from the logogram  *s(.t)* “pintail duck”) became conventionalized as a logogram, as indicated by the vertical stroke that signals, inter alia (§6.3), logographic uses.

As the examples above should suffice to show – and against a common idea held by Egyptologists³⁸ – logograms are not defined here by the fact that their forms resemble, in a way or another, or is related to the notion it refers to (much like the logograms in other writing system worldwide). Rather it is enough for a sign in context to refer to the two dimensions of a lexeme, namely at the same time to both a signifier and signified, in order to meet the definition of logogram in our taxonomy. At this point, one should stress that there is not necessarily a “one-to-one” relationship between a hieroglyphic sign used as a logogram and one specific lexeme.³⁹ Some logograms can indeed refer to multiple words – such as , which can be used for cows and bulls alike (although one of course expects to find differences in detailed hieroglyphic signs) – or can point to a reality for which different words may coexist synchronically. For instance the cow-ear , besides its use for noting the verb *sḏm* “to hear”, can refer to the “ear” realized as *jd*, or, more usually as *msḏr*.

Despite the simplicity of its definition, the limits of the logographic category are not always that easy to draw when the syntagmatic organization of the hieroglyphic script is taken into account. We now proceed with two simple cases and a more complex one. The sign , standing alone, or  in  , are both clearly logographic uses of the signs  and , respectively for noting the word *Sth* “Seth”⁴⁰ and *ḏr:t* “hand”: the first word is written with the logogram alone, while in the second,  is accompanied by a phonemographic interpretant (the feminine marker *.t*) and the meta-grapheme Z1 (*l*). Other examples, however, can be trickier. Let’s take for instance the spelling   *rmṯ* “people”. Should we describe it (1) as a logographic spelling *rmṯ* ( ) with two phonemographic interpretants, *r* () and *t* (), or rather (2) as a (defective) phonemographic spelling (), with the classifier  showing that this word refers to a group of human animates? There is actually no “correct” answer to this question, as both solutions are actually valid depending on the point of view that one decides to take. Lacau (1913: 7–11) argued that, originally, the sign-group   was used as a logogram for the lexeme *rmṯ* “people” (e.g. *Urk.* I, 57, 15 & 16; tomb of *Sšm-nfr*, late Vth dynasty); in the biography of Metjen, the intrinsic plurality of the lexeme is expressed at the graphemic level by the use of three signs functioning as a compound logogram:    (*Urk.* I, 3, 9). In a second step, some of its consonants were written out – but only those needed to avoid an ambiguity and ideally fitting within the space for a group or “quadrat” (Lacau 1913: 8–9) –, which led to

that in such a case, “un rapport, originellement inexistant, est établi secondairement entre ce que représente un signe et ce qu’il signifie. Le canard devient ainsi le symbole de la relation filiale.”

38 See recently Borghouts (2010: 37–38) who states in his section about the ‘kinds of signs’ that “[f]rom a functional point of view Egyptian signs can be subdivided into two main categories: logograms and phonograms. (...) A sign will be called a ‘logogram’ when its outward form is related (in a specific or general way) to the notion it refers to. A ‘phonogram’ is a sign that, *whatever* it represents, has only a sound-value”.

39 This has sometimes been called “the flexibility of the ideographic signs”. See the enlightening discussion in Schenkel (2003: 13–18).

40 See the discussion of more problematic spellings of Seth in Lincke/Kammerzell (2012: 59).

the spelling . This scenario would seem to favor the first analysis suggested above. Approximately at the same time, however, the sign-group  is used as a classifier in the spelling of other lexemes referring to human animates, such as  *msw* “children” (e.g. *Urk.* I, 41,9; tomb of *Pth-w3š*, Vth dynasty)⁴¹ or  *hm-k3* “funerary priest” (e.g. *Urk.* I, 11,11; IVth dynasty). The paradigm that emerges thus makes the second analysis suggested above likely at this point. As one can see, a number of questions arise: first, was there a time when the sign-group  was only used as a logogram, and not at all as a classifier? Second, is the use of “articulated” spellings , with phonemographic interpretants, diachronically correlated with the use of the sign-group as a classifier? The texts from *Urkunden* I seem to point in this direction, but it is a very small corpus, with the tomb of *Mjn* as sole witness for the third dynasty. Such questions must therefore be left open for future research. What matters here is to stress the complementarity and possible diachronic relationships between the semographic categories of logograms and classifiers, on the one hand, and between the phonemographic categories of phonograms and interpretants, on the other hand.

6.3 Phonograms

DEFINITION: [-SEMOGRAM], [+PHONOGRAM], [+AUTONOMOUS]

Phonograms are graphemes that represent phonemes or combinations of phonemes, i. e., distinctive units and not meaningful units: e.g.  for *b*, etc. However, when classifying individual signs, the distinction between phonograms and radicograms (see §6.5 below) is not always obvious. Phonograms are indeed defined as not semographic [-SEMOGRAM], which is a feature that can be tested empirically: phonograms should be able to occur in unrelated words, i. e., words that share no root (hence, without common semantic components). If this holds true for the uniliteral signs, the point is sometimes more difficult to make for biliteral signs (and all the more for trilateral signs). As a prototypical example of a biliteral phonogram, one can quote the grapheme  *mj* (a milk jug carried in a net⁴²; W19): its uses in words like *mj* “as”, *mjw* “cat”, *dmj* “town” show that it has no other value there than a phonemographic one. Other biliterals, like  *gm* (flamingo; G28) for example, can refer to different homographic roots – in this case mostly to the notion of [ENCOUNTERING] and of [TRITURATION]⁴³ –, but are rather avoided in the spellings of words that are unrelated to these ‘preferred’ roots, e.g.  *gm3*, a medical term referring to a bone of the head (“Joch-/Schläfenbein”; *Wb.* V, 170,2). Finally, the scribe’s equipment  is probably not merely a phonogram for *sš*, since it occurs always in words that have to do, in one way or another, with [WRITING] (when not used as a classifier, of course). These three examples show quite clearly that the actual uses of signs bring

41 Other example:  (*Urk.* I, 30,7), compare with  (*Urk.* I, 24,15; 27,6) in the tomb of *Ny=k-nh*, Vth dynasty.

42 Note, however, that the milk-jug itself is called *mhr* (or *mhn*, see *Wb.* II, 115,5–8). On the sound value of this hieroglyph, see the recent discussion in Schweitzer (2011: 147–149).

43 See respectively Vernus (2012; 2015) and Vernus (2009).

some empirical gradience between the clear-cut categories of semograms and phonemograms (see especially Schenkel 2003: 20–29).

This fact is actually to be considered in relation to the putative origin of the phonemograms: they can be described as the result of a process of “de-iconization” (see Goldwasser (1995) and Loprieno (2003b: 126–138); also labeled “abstraction du référent”, see Vernus 2003: 197) through which the graphemic sign progressively loses its semantic link to the entity depicted and becomes available for representing only a phonemic shape. Following this line of thought, some graphemes used as phonograms would keep semantic features associated with the depicted hieroglyph.⁴⁴ However, Vernus (2003: 210–211) made an alternate proposal in order to account for such cases and it somehow turns the argument the other way around:

“Beaucoup d’êtres ou d’objets susceptibles d’être promus référents d’un hiéroglyphe étaient désignés en égyptien à partir d’une épithète dénotant la qualité ou l’action dont l’être ou l’objet était considéré comme le parangon, le prototype, ou une illustration topique. Ces noms étaient entrés dans la langue avant l’écriture. Au fur et à mesure que l’écriture se mettait en place, les hiéroglyphes représentant ces êtres et objets étaient utilisés comme phonogrammes pour écrire le verbe exprimant la qualité ou l’action en question et les mots qui en dérivait, que l’étymologie fût encore plus ou moins consciente ou qu’elle ait été oubliée.”

As such, it would be no surprise, for example, that the red flamingo  *dšr* (G27) occurs in the spellings of words associated with the notion [BEING RED]: this icon might indeed have been chosen as a grapheme, precisely because this bird was called or nicknamed “the red one”. The same principle could apply to other examples where a more or less perceptible semantic link obtains between the graphemic icon and the meaning of the word in which it is used:  *nr* (head of a vulture) in words like *nrw* “terror” (because vultures, Egyptian *nr.t* [*Wb.* II, 277,1-3], inspire fear);  *šš* (lizard) in words like *šš* “numerous” (because lizards, Egyptian *šš* [gecko, see e.g. Meeks, *AL* 78.0804], appear in large numbers), etc.⁴⁵

Beside such cases, the “iconocentrism” (Loprieno 2003a: 238) characteristic of the hieroglyphic system accounts for the ability of each grapheme “to maintain a tension between its function as a linguistic sign that ‘stands for’ something else (whether this something else is a sound or a concept), and its connotational potential, a semiotic space only incompletely covered by regulatory mechanisms and left open, therefore, to more idiosyncratic, individual interventions.” As Beaux (2009: 249) puts it: “[l]e signe, même purement phonétique, possède un réservoir sémantique inhérent à sa qualité d’image, réservoir auquel le scribe est toujours libre d’accéder.” (See the discussion of  *hn* under §6.5).

44 See the numerous examples discussed in Vernus (2003: 200–212).

45 As pointed out by a reviewer, these reasons are assumptions on cultural backgrounds, which are very difficult (if not impossible) to prove and sometimes appear to be in contradiction with empirical evidence.

6.4 Classifiers

DEFINITION: [+SEMOGRAM], [−PHONEMOGRAM], [−AUTONOMOUS]

Such “iconocentrism” has obviously been exploited by Egyptian scribes mostly with the semograms – where a direct link between the hieroglyphic icon and the meaning of a word can obtain – and in particular at the level of classifiers,⁴⁶ namely (written) morphemes that occur at the end of a word and give some indications about the semantic classification of a lexeme (“lexeme classification”, level of the linguistic signified) or of a word-form in context (“referent classification”, level of the linguistic referent).⁴⁷ This distinction between lexeme and referent classification can be illustrated by an example involving the word *mnjw* “herdsman” (*Wb.* II, 74,15–75,6) that further shows the complementarity between the categories of classifiers and logograms. In a spelling such as  the man with a stick and a bundle on the shoulder (A33) classifies the lexeme *mnjw* “herdsman” in the category of [WANDERER] (or the like). In the Kanais inscription,⁴⁸ one finds the logographic spelling  for *mnjw* “herdsman” (see Fig. 12) in a common epithet that describes king Seti I as being a *mnjw nfr s'nh msc=f*, a “good shepherd, who keeps his army alive”. In the context of the Kanais inscription – in which Seti I is praised not only for having built a temple but, most importantly, for having “excavated a well in front of it” (*šd.n=f hnm.t m-b'ḥ=s*) –, this very specific writing of the lexeme *mnjw* (Fig. 12), with a man carrying both goods and water, refer of course to the king as a good shepherd, but – crucially in this context – in his ability to provide water to his subjects. Here we are therefore dealing with the level of “referent classification”.



Fig. 12 A logogram for *mnjw* in the Kanais inscription

This simple example suffices to show that “referent classification” is a property shared by semograms and extends beyond the limits of the classifiers category.

Furthermore, as we have seen above when discussing the example of  *rmt* (§6.1), it is not always possible to distinguish between logograms (accompanied by interpretants) and classifiers (preceded by phonograms), especially when one is dealing with “echo classifiers” or “repeaters” (see e. g. Goldwasser 2002: 15; 2012: 20). In this respect, consider the spelling  *mj* “lion”:  can legitimately be analyzed as a logogram or as a repeater. However, when con-

46 Since the pioneering studies by Goldwasser (2002) and Kammerzell (1999; 2004), this sign function has been at the center of many studies (see the literature quoted in Goldwasser/Grinevald 2012; Lincke 2011; Lincke/Kammerzell 2012) and a matter of controversies (Loprieno 2003a; McDonald 2004a & 2004b).

47 On this distinction, see Lincke (2011) and Lincke/Kammerzell (2012: 88), with the preceding discussion by Loprieno (2003a: 246–248) of the intensional vs extensional meaning of classifiers.

48 Schott (1961, pl. 19, texte A, col. 2) = *KRI* I, 65,6. See the comments in Polis/Rosmorduc (2013: 60–61).

sidering this spelling in a synchronic paradigmatic series such as , etc., the substitution mechanism would rather point to an analysis of as a repeater.

6.5 Radicograms

DEFINITION: [+SEMOGRAM], [+PHONEMOGRAM], [–AUTONOMOUS]

Radicograms (Schenkel 1971; 1984; 2003) are graphemes that point at the same time to some form [+PHONEMOGRAM] and some content [+SEMOGRAM] – just like logograms –, but are not able alone to refer to an autonomous lexeme.⁴⁹ As such they need to be accompanied by other graphemes that specify the meaning (semograms) or phonemic shape (interpretants) of the written lexeme. In practice, graphemes that are used in such a way in the hieroglyphic system do usually refer to Ancient Egyptian roots, which explain the label chosen for this function class.⁵⁰

Some signs that are used as logograms (such as in *tbw.t* “sandal”) and classifiers (in *tbw.t* “sandal”) can also be used as radicograms in words build on the same root: “to be shod”, “shoemaker”, etc.

Some hieroglyphs, on the other hand, are virtually limited to uses as radicograms, as illustrated by the following example. The hieroglyphic system has two graphemes for noting the sequence *hn*: (goat skin, F26) and (arms engaged in rowing, D33). While appears to be the unmarked phonogram for *hn* (besides its logographic use in *hn.t* “skin”, note its occurrences as phonogram in unrelated lexemes such as *hn.w* “inside” or *hn* “to approach”), appears to be the marked grapheme of the pair, since it is exclusively used in lexemes related to [ROWING] – like *hnj* “to row, to travel by boat”, *hnnw* “oarsman”, *hn.t* “a travel by boat, a water procession”, etc.⁵¹ – or derived from this root, such as the instrumental *mhn.t* “ferry boat” (with the instrumental prefix *m-*) or, e. g., the intensified *hnn* “to agitate, to trouble” and *hnnw* “brawler” (as water agitated with a paddle, with reduplication of the last radical).

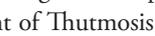
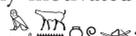
The marked vs unmarked graphemic opposition between and can be argued based on the fact that, (1) is only generalized to spellings of lexemes linked to the [ROWING] root from Middle Egyptian onwards (before is widely used in the spellings of these lexemes) and, as such, (2) the grapheme occurs in spellings where is later expected

49 As Meeks (2004: xxiv) puts it: “*Radicogramme*: signe exprimant par une image (pictogramme) le contenu sémantique d’un mot dont il peut rendre seul toute l’articulation. Ainsi le signe représente la couronne rouge de Basse-Égypte. Il servira de logogramme lorsqu’il sera employé seul, sans complément phonétique, pour désigner cette couronne. Mais il sera un radicogramme lorsqu’il servira à écrire les mots de la famille *dšr* sémantiquement lié à la couleur rouge.”

50 Another label for this function class is the “phonétiques signes-racines”, Malaise/Winand (1999: 30–31) based on an expression that B. van de Walle was using in his classes (Winand, p.c.).

51 The use of this grapheme in *hntj* “statue” (*Wb.* III, 385,3–10) is arguably linked to the fact that it was precisely the statue used for water procession.

– the lexeme  *mhn.t* “ferry boat” is also attested with a spelling  (already in the *PT*) – while the opposite does not hold true.⁵²

As appears from the examples above, as non-autonomous graphemes, radicograms enter into complex syntagmatic relationships with other phonemograms and semograms, most often classifiers but not exclusively. The Boston Stela MFA 23733 (= *Urk.* IV, 1241,17) indeed shows that logograms and radicograms can participate in the spelling of a single lexeme. In this carefully drawn monument of Thutmosis III, *mhn.wt* “ferry boats” is written . The scribe decided to use a detailed logogram and to apply it with a spelling that including the iconically motivated radicogram instead of the more common phonogram, such as in the spelling .

Finally, let’s notice that radicograms are sometimes iconically re-motivated. Such is the case in P. Leiden 348, v^o 9,1 (= *LEM* 135,13), where the scribe purposely played with the spelling of the verb *hnj* “to convey by water”. Instead of employing the expected radicogram , he created “a fanciful substitute” (*LEM* 135a,13.^a):  (using the sign A351). In this spelling, the radicogram is “logogramatized”, so to speak, with the oarsman fully depicted and rowing in the water sign that functions both iconically and as a phonogram for *n*: .

6.6 Phonemographic Interpretants

DEFINITION: [–SEMOGRAM], [+PHONEMOGRAM], [–AUTONOMOUS]

Interpretants, usually labeled phonetic complements in the Egyptological literature,⁵³ are non-autonomous graphemes that interpret – and thereby sometimes disambiguate – the phonemic value of other semograms (logograms and radicograms alike) or phonograms. The most usual interpretants are obviously the uniliteral signs, e.g. in groups like  *db*,  *mn*, or  *zb*. In the last case, the interpretant raises an ambiguity regarding the value of the biliteral sign , here *zb* and not *mr*,⁵⁴ which would be implied by the use of other interpretants, such as  *m* and  *r* in .

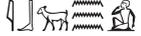
Let’s first notice that interpretants can themselves be interpreted, which is evidently to be linked to the tension between economy and readability in the hieroglyphic system. A simple example is the verb *wb3* “to open up” that can be spelled , with the logogram .

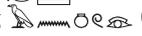
52 At least, according to the spelling lists of the *TLA* and to the Ramses database.

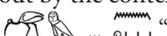
53 Kammerzell/Lincke (2012: 59 n. 7): “[t]his term should be avoided because of the danger of its wrong implications: These elements do not hint at any phonetic (as opposed to *phonological*) properties and the element hosting an alleged complement is not in any way incomplete without it. Therefore, it seems more reasonable to name such an element according to what it actually does: (partially) interpret a phonogram or logogram. For the semiotic notion of *interpretant* in Egyptology, see already Kammerzell (1993: 243).

54 On the ongoing debate regarding the reading of this grapheme as *mr* or *mhr*, see Schweizer (2011: 142–144, with previous literature).

*wb*³ (hand drill, U26), interpreted by the biliteral  *b*³, itself interpreted by the uniliteral  ³.

In other cases, there is a direct dependency between phonograms and interpretants, so that the limits between the two categories may look blurred. We have in mind here signs functioning as “phonetic determinatives” (Gardiner 1957: 50, §54). In the word  *jb* “thirst”, for instance, it would be completely artificial to analyze  *j* and  *b* as the interpretants of a phonogram  *jb*, since the hieroglyphic system rather works the other way around: the use of  *jb* is triggered by the phonograms  *j* and  *b*. As Gardiner (1954: 50) puts it, “the entire word  ‘kid’ enters bodily into the writing of the etymologically unrelated word for ‘thirst’”. Gardiner further points out that a spelling  would be quite abnormal (at least in early times), which leads to analyzing quite naturally  *jb* as a graphemic interpretant of the sequence of phonograms  *j* and  *b*.

At this point, one can notice that “entire words entering bodily into the writing of etymologically unrelated words” is not a phenomenon limited to the so-called “phonetic determinatives”. An illustration of this point is found in T. Turin 58005, which contains a copy of some chapters of the *Teaching of Amenemope*. The beginning of the 25th chapter (l. 1,2–3) reads: *m-jr sbj n k³mn* “do not make fun of a blind person”, with *k³mn* “blind” spelled  while P. BM EA 10474 (24,9) has the expected spelling  (Laisney 2007: 357). The scribe of T. Turin 58005 thus seems to have used the whole writing of the verb  *gmj* “to find”, as a means of rendering the phonemic shape *k(³)m/n*, by adding the classifier  (eye touched up with paint). In this context, the assessment of the function of individual signs (especially ) becomes irrelevant, since they can only be explained in relation to  *gmj* “to find”.

Finally, it is interesting to point out that interpretants are not uncommonly used for referring to evolutions in the spoken realms. P. Abbott, r^o 5,13 (= *KRI* VI, 476,1–2) offers an interesting case in point (that also helps for understanding the use of *gmj* in the previous example). The perfective *s³dm=f* of the verb *gmj* is indeed written  in a sentence reading *gm.n=w ³j-n-js.t W, sš I, rmt-³js.t I n p³ hr* “they met the chief workman W., the scribe I. and the workman I. of the Tomb”. The spelling  cannot seriously be analyzed as a *s³dm.n=f* form in a text from the end of the Ramesside period of this sort and a passive analysis is ruled out by the context. This means, as already suggested by Peet (1930: 43 n. 15), that the spelling  “doubtless indicates that the *m* of the stem was already pronounced as *n*: cf. Coptic ⲃⲏⲛⲉ.”

7 Envoi

May this brief journey on the borders of semiotic categories capture the attention of Antonio Loprieno, a Master for anyone interested in the Ancient Egyptian language and culture, as

well as an endless source of support for the (once upon a time) young scholars in the field of Egyptology.

By way of conclusion, we would like to stress that such reflections on the classes of hieroglyphic signs functions were initially born out of a very practical need: it was a prerequisite for being able to describe adequately the graphemes when developing a structured sign-list of hieroglyphs, which could be used as a standard for building large-scale annotated corpora.⁵⁵ Such an endeavor, however, can have unexpected theoretical consequences. The sign **I** (Z1), for instance – which is usually described as a meta-indicator of a logographic use of a sign or, as Schenkel (2003: 11) describes it, “Das Dargestellte ist das Gemeinte” ( = “hare”) –, is perhaps better described as pointing to the *autonomous* use of a sign, signaling that its glossic function either as semogram ( = house = *pr*) or as phonogram (e. g., in syllabic writing  *s-w-b-b* “to draw back”) is saturated.

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