

offprint from

Lingua Aegyptia  
Studia Monographica

Herausgegeben von  
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Band 9

Institut für Archäologie  
Humboldt Universität  
Berlin

Widmaier Verlag  
Hamburg

Institut für Ägyptologie  
Universität Wien  
Wien

copies of this volume may be ordered from the publisher ([orders@widmaier-verlag.de](mailto:orders@widmaier-verlag.de))  
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# Lexical Semantics in Ancient Egyptian

Eitan Grossman, Stéphane Polis & Jean Winand (eds.)

Widmaier Verlag · Hamburg  
2012

Titelaufnahme:

Eitan Grossman, Stéphane Polis & Jean Winand (eds.)

Lexical Semantics in Ancient Egyptian

Hamburg: Widmaier Verlag, 2012

(Lingua Aegyptia — Studia Monographica; Bd. 9)

ISSN 0946-8641

ISBN 978-3-943955-09-5

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Gedruckt auf säurefreiem, archivierfähigem Papier.

Druck und Verarbeitung: Hubert & Co., Göttingen

Printed in Germany

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# Egyptian classifiers at the interface of lexical semantics and pragmatics

Eliese-Sophia Lincke & Frank Kammerzell, Berlin

## Abstract

This paper is concerned with the semantics of Egyptian classifiers, their relation to the lexicon, rules of their assignment, as well as the structure of categories marked by a classifier, and classifier variation in Egyptian.

We will discuss lexical origin and iconicity as sources for classifier meaning as well as retroactive effects of the category on the meaning of its classifier. We will explore reasons for heterogeneous category structures with the help of a prototype model. It will be demonstrated that classifier categories do not exactly correspond to lexical categories as marked by hyperonyms or to covert taxonomic categories. Furthermore, certain types of classifier variation will be analysed: One type of classifier is assigned according to lexical semantic qualities of its host (lexical classifier). The other type refers to its host's referent in discourse (referent classifier) and is sensitive to pragmatic factors. The steps put forward in our paper for the analysis of classifier semantics and classifier-host relations account for a number of variation phenomena that hitherto have caused some Egyptologists to reject a classifier approach to the Egyptian material.

## Outline

Grouping together individual entities – whether abstract or concrete, real world objects or only figments of imagination – into one class and subsuming them under one linguistic sign (i.e. a “word”) is a categorization process. We are convinced that in Written Egyptian a second categorization process is to be found in the use of a sign function class which has been identified by Goldwasser (esp. 2002), Kammerzell (1993, 2004) and Rude (1986) as what linguistic typology calls *classifiers* (esp. Allan 1977 and Grinevald 2000, 2004). The adoption of this term strongly hints at the interpretation of these graphic morphemes as having a categorizing or classifying (we use both terms synonymously in this paper) function.

Egyptian classifiers are bound morphemes – elementary linguistic units consisting of a form and a meaning, which do not appear independently of other morphemes. Being a classifier is not an inherent quality of a particular hieroglyphic grapheme but rather a sign function fulfilled in a specific distribution.

The element that gets classified – usually a noun or a verb – will be called the *host* throughout this paper. A number of questions arise from this relationship between two meaningful elements, the host and its classifier: Are they interdependent? Does the meaning of one of them affect the meaning of the other, i.e. can the classifier change or modify the meaning of its host or is it the host that defines the meaning of the classifying element? Do classifiers define linguistic sets (lexical categories) or sets of entities (i.e. sets of the referents of “words”)? Are there regular correspondences or even correlations between categories in the lexicon (items under one hyperonym, i.e. a

superordinate term) and categories as overtly marked by particular classifiers (items that have the same classifier)?

In order to approach these questions, we will outline the semantics of Egyptian classifiers by describing the semantic and semiotic relations between a classifier and its host as well as the repercussions of these relations for the structure of the category built by such a classifier (Section 2). Goldwasser (2009: 21-22) has argued that the reason why the identification of classifiers in Egyptian has been received with skepticism by some Egyptologists is the high number of *repeaters*. She makes clear that *repeaters*, however, are quite common in classifier-using languages too. We think that another reason for this sort of skepticism lies in the high degree of variation in Egyptian classifier usage, especially the variation that is, or is believed to be, determined by the extralinguistic context rather than the lexicon. In Section 3, we will demonstrate that what looks like variation on the one hand is often due to the respective classifiers being attached to hosts of different linguistic levels (lexemes, word-forms or phrases). On the other hand, the question arises as to whether the choice of a classifier is governed by the lexical meaning of a linguistic element or rather by its referent. There is evidence that both options were employed. The point of view that classifiers are either more or less systematically related to lexical units or were used *ad libitum* by the scribes shall be replaced by showing that systematic relations between classifiers and their classified not only exist on the level of the lexicon but also when the cotext within the respective utterance and the pragmatics of the speech situation or the extralinguistic context plays a role.<sup>1</sup> Based on this situation, different types of classifiers can be discriminated. We will build on observations made by Lincke (2011), taking her analysis a step further and discern between *lexical classifiers* and *referent classifiers*. In the final section, we will provide an outlook on factors that may affect or determine the choice of a classifier (Section 4).

## 1 Some definitions and presuppositions

### 1.1 Lexemes and word-forms

Many descriptions of classifier systems define the host of a classifier as a *noun* – obviously because most of the hitherto described (and most of the existing as well) classification systems are *nominal classification systems*. In other works the host is plainly referred to as *word*. In Egyptian, classifiers are not only attached to nouns but also to verbs and – to a much more limited extent – to other parts of speech.<sup>2</sup> Therefore, we cannot simply refer to the hosts of classifiers as *nouns*. On the other hand, *word* is a fairly imprecise term and cannot be used as a substitute either. In

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1 A relevant cotextual factor governing the choice of a classifier may be the grammatical construction to which a classified element belongs (e.g., a compound). By context-sensitivity we mean the fact that pragmatic factors, e.g. specific characteristics of the actual referents of an expression, the writer's attitude towards the referents, text genre, the relation between producer and recipient of the utterance, may affect the choice of a classifier.

2 A comprehensive empirical study on classifiers on elements of different parts of speech in Middle Egyptian is being prepared by Daniel Werning, Annette Sundermeyer and Philipp-Emanuel Klepsch (cf. Werning et al., *in preparation*). See also Allon (2010) for classifiers on Egyptian particles and interjections.





Section 3 of this paper, we will show that Egyptian classifiers operate on different linguistic levels, that they refer to different semiotic components of “words” and that the notion of word is too vague for our purposes of analysis. For this reason, we introduce into the discussion the notion of *lexeme* that is crucial to the understanding of the analysis suggested in Section 3.3.

A recent textbook explains *lexeme* und *word-form* as follows:

“A **lexeme** is a word in an abstract sense. LIVE is a verb lexeme” (Haspelmath & Sims <sup>2</sup>2010: 15).

“By contrast, a **word-form** is a word in a concrete sense. It is a sequence of sounds that expresses the combination of a lexeme (e.g. LIVE) and a set of **grammatical meanings** (or **grammatical functions**) appropriate to that lexeme (e.g. third person singular present tense)” (Haspelmath & Sims <sup>2</sup>2010: 15-16).



These definitions may be taken as a point of departure, but hold true only in case of languages whose lexicon is organized in a similar way to English. In predominantly root inflecting languages – and we may assume that Earlier Egyptian word formation was prevalently characterized by root inflection<sup>3</sup> – lexemes generally are roots. Word-forms (see below) were built on the basis of a root by dovetailing it with a vocalic tier to form a certain pattern. As a consequence, a word-form of a root-inflecting language (or rather the root-inflecting segments of a particular language)<sup>4</sup> must not be analyzed as a single morpheme (like English LIVE) or a single morpheme plus additional grammatical meaning, but rather as being divisible into two, discontinuative morphemes. How a word-form is built by a lexeme and distinctive additional morphemes is illustrated under (1a) for Spoken Egyptian and (1b) for Written Egyptian.

(1a)	{ t _ w _ t _	‘be(come)_like’ } <sup>lex.</sup>	LEXEME (or: ROOT)
	{ _ a _ 'a: _ ə	‘PTCP.M.SG, ...’ } <sup>gr.</sup>	GRAMMATICAL MORPHEME
	<b>t a 'w a: t ə</b>	<b>‘image’</b>	WORD-FORM
(1b)	{  ◊	‘be(come)_like’ } <sup>lex.</sup>	LEXEME (or: ROOT)
	{  }	‘STATUE’ } <sup>class.</sup>	CLASSIFIER
	◊  ◊ 	<b>‘image’</b>	WORD-FORM

3 The inflecting character of Earlier Egyptian is universally approved by Egyptologists working within quite different theoretical frameworks (cf., e.g. Gardiner 1957: § 3, Osing 1976: 2-9, Reintges 1994, Loprieno 1995: 51-55). To support this opinion we can mention: a certain degree – probably relics – of *Ablaut* in Coptic, root modifications attested in Written Egyptian, and the very nature of the hieroglyphic writing system that does without elements regularly corresponding with vowels (this may suggest that the dominance of root inflection was particularly high in the earliest phases of the Egyptian language).

4 There is perhaps not a single language that forms all its content words on the basis of root-inflection. The classification of languages into inflecting, agglutinating, polysynthetic etc. types is more a matter of the frequency of preferred word building structures than an absolute ascription of a particular feature. Here again we have to deal with a continuous scale of degrees between prototypical and less typical class membership.



The noun *ta'wa:tə* ‘statue’ (< *ta'wa:taw*)<sup>5</sup> of Spoken Middle Egyptian (1a) consists of the lexical root *twt* ‘be(come) like’ intertwined with the vocalic tier /\_a\_ 'a :\_ə/, which is a grammatical morpheme characterizing a masculine participle. In Written (Old) Egyptian there are also two meaningful elements, but here we do not deal with discontinuative root plus equally discontinuative grammatical morpheme but with a classifier  suffixed to the root , that is written with three elementary (“uni-consonantal”) phonograms corresponding to the consonant string /twt/. Whereas the vocalic tier has left no counterpart in Written Language, the classifier does not correspond to any spoken element. This situation is of crucial importance for a methodologically sound description of the relationship between Spoken Egyptian and Written Egyptian and results in several quite astonishing observations:

- (1) Even though for obvious reasons closely interrelated with each other, Spoken Egyptian and Written Egyptian do not possess an equivalent morphological structure. This holds true for the whole system as well as for a particular written text and its (reconstructed) Spoken Language counterpart.
- (2) Whereas Spoken (Earlier) Egyptian is a predominantly root-inflecting language, Written Egyptian is more agglutinative (there are only a few, well-defined cases of inflection), cf. Kammerzell (1993).
- (3) Written Egyptian is what has been labelled a “classifier language”, Spoken Egyptian is not.

In this paper, we use the term *lexeme* to refer to an Egyptian root as an abstract linguistic sign, i.e. a form-meaning pair the form of which is a consonantal skeleton or its written counterpart (which can be designated as ‘root’ as well, see Lincke 2011), while its meaning is that abstract semantic concept that is shared by all instances of the lexeme notwithstanding their respective combination with grammatical morphemes. We adopt the “view of the root as an unanalyzable [i.e. not further segmentable, ESL& FK] morphological unit obtained by stripping away all morphological structure from a word form” as formulated by Berent & Shirmon (2003: 219 footnote 1), following Aronoff (1992: esp. 15, 1994: 40).

In Written Egyptian, a classifier follows its host. However, it is all but obvious whether this host – until now mostly simply referred to as “word” – is a lexeme (root) or a word-form. We will discuss this question in Section 3.

## 1.2 Classifiers, Egyptian sign function classes, and their theoretical basis

Classifiers are bound morphemes (on the definition of bound morphemes, cf. Payne 1997: 20-22),<sup>6</sup> i.e. minimal linguistic elements that have a form and a meaning but cannot appear independently of other morphemes. By this they are positioned in the following net of relations between the different sign function classes occurring in the Egyptian writing system amongst others.





5 For this vocalization, based on Coptic *two :t* ‘statue’, cf. Osing (1976: 186).



6 “A **morpheme** is a minimal shape. The classical definition of a morpheme is a minimal formal shape or piece that expresses meaning.” (p. 20) “A **bound morpheme** is a morpheme that must be attached to some other morpheme in order to be integrated naturally into discourse.” (p. 21)

	[+meaningful]	[−meaningful]
[+autonomous]	<b>logograms</b> (inaccurately: “ideograms”)	<b>phonograms</b> (in the narrower sense)
[−autonomous]	<b>classifiers</b> (inaccurately: “determinatives”)	<b>interpretants</b> (“phonetic complements”) <sup>7</sup>
	semograms	phonograms (in the wider sense)

Table 1. Elementary sign function classes in Written Egyptian

That the notions of logograms, classifiers, phonograms, and interpretants refer to possible functions fulfilled by the tokens of particular graphemes according to their distribution and do not define inherent qualities of the signs is obvious from the fact that realizations of one and the same grapheme are not confined to a single class (though, of course, certain preferences can be observed). Moreover, in some distributions it is quite often not possible to determine unambiguously the actual function class the token of a grapheme belongs to. Compare the following written forms of the name of the god Seth, all taken from the Pyramid Texts of the late 3<sup>rd</sup> millennium:

- (2a)  <STH>     *sth* /surtix/ ‘Seth’ (Pyr. 84c<sup>W</sup> and often in <sup>W</sup>)
- (b)  <(s-t-š)>     *sth* /surtix/ ‘Seth’ (Pyr. 84a<sup>N</sup> and often in <sup>T, P, M, N, Nt</sup>)
- (c)  <(s-t-š-DIVINE)>     *sth* /surtix/ ‘Seth’ (Pyr. 1594b<sup>P</sup>, 1595c<sup>P</sup>)
- (d)  <<sup>s.t.š</sup>-STH> or *sth* /surtix/ ‘Seth’ (Pyr. 84a<sup>W</sup>)  
                                   <(s-t-š-<sup>SETH</sup>)>

All sign functions in (2a), (2b) and (2c) are non-ambiguous. In (2a), which is the standard written form in sub-corpus W (the texts from the pyramid of King Wanjash a.k.a. “Unas”), *sth* ‘Seth’ is written by means of  acting as a logogram. The graphemic form in (2b) is attested about 300 times in the texts of Wanjash’s successors and illustrates the option of writing a linguistic element only by means of a chain of phonograms that correspond to the elements of its consonantal skeleton.<sup>8</sup> In (2c), a rare spelling from the pyramid of King Pijaapij (a.k.a. “Pepi I”), we come across the potentially autonomous phonographic writing with an additional classifier  – which is definitely a bound morpheme since it cannot be used alone to designate *sth* ‘Seth’. The form (2d), attested only once within the Pyramid Texts, allows two alternative

7 Traditionally (phonographic) interpretants are labelled “phonetic complements” in Egyptology. This 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 notion of *interpretant* see Eco (1991 [1976]: 101-107).

8 The circumstance that (š) here is transcribed with *h* /x/ – instead of *s̄* /ʃ/, as is appropriate for texts in Middle and Late Egyptian – need not concern us here, cf. Kammerzell (2005: 182-187).

analyses: it may be considered either a string of potentially autonomous phonograms  $\text{𓂏} \langle \text{s-t-š} \rangle$  semographically interpreted by a repeater-like classifier  $\text{𓂏}$  (on this type of sign see Section 2.2.1) or a potentially autonomous logogram  $\text{𓂏} \langle \text{STH} \rangle$  that is completely interpreted by means of the three non-autonomous elements  $\text{𓂏} \langle \text{s-t-š} \rangle$ . In such cases of “tautological” interpretations in one or the other direction, the difference between logogram and repeater-like classifier as well as that between phonographic interpretant and phonogram in the narrower sense is neutralized.

In accounts of the Egyptian writing systems – whether learners’ grammars or more popular works<sup>9</sup> –, hieroglyphs are assigned to classes according to their function in the writing system. For instance, *classifier* is the typologically more correct name for hieroglyphs that can be attributed to the sign function class<sup>10</sup> whose members have been traditionally called “determinatives” in Egyptology. The term was defined by Gardiner (1957: 31 § 23) as follows: “In several of the examples quoted in § 22 the ideogram follows one or more phonograms and ends the word. In cases such as these it is called a **determinative**, because it appears to determine the meaning of the foregoing sound-sings and to define that meaning in a general way.” Following this definition, we conclude that no hieroglyph is a classifier per se (because there are no “sign classes” per se). The identification of a hieroglyph as a classifier is bound to a particular position and function within the spelling of a particular word-form. Furthermore, when an already existing hieroglyph is used (“activated”, as Goldwasser 2002: 13 says) or a new one is created as a classifier it necessarily fulfils a specific function within the Egyptian writing system. We stress that whenever we talk about a hieroglyph as *classifier* in this paper we refer to this function (and position), and the term *classifier* is to be understood as an abbreviation for “set of tokens of a hieroglyphic grapheme that are used as a classifier”.<sup>11</sup>

The term *graphemic classifier*, established by Rude (1986) and adopted by Goldwasser, is a somewhat rough label, based on the substance of the system and opposing the classifiers attested only in Written Language to what would have to be called *phonemic classifiers* as a cover term for all types of classifiers that are attested in Spoken Language. This approach, often accompanied by hints at an alleged opposition between “language and script” (cf., e.g. Goldwasser 2006, 2005: 99) or “morpheme and grapheme” (Goldwasser 2009: 20), does not take into account the fact that the very substance of a linguistic sign is of little if any relevance for the question of whether it is a morpheme or not.<sup>12</sup> The substance of a code can be represented using the sub-

9 With the exception of Schenkel (1984 and 1994) not a single overall systematic treatment of the hieroglyphic writing system that is based on genuine original research and answers to the most modest theoretical requirements has been published during the last decades.

10 To the best of our knowledge, the term “sign function class” (*Zeichenfunktionsklasse*) – instead of “sign class” – has been used for the first time by Kammerzell (1999). The concept that the relevant functions pertain to actual tokens of graphemes in particular distributions and not to the more abstract graphemes themselves, however, shows up already in Schenkel (1984: 714-718).

11 Even though a larger-scale corpus-based analysis has never been undertaken, we are probably on safe ground when we suggest that the majority of hieroglyphic graphemes functioning as classifiers are also attested as members of other sign function classes (in particular as logograms).

12 For the theoretical foundation of this approach, cf. Hans Jørgen Uldall (1944: 11-15), who considered the elements of Written Language and Spoken Language to be nothing but distinct substances of the same underlying forms that refer to identical contents. We modify this classical glossematic

stance of another code (e.g. by transliterating a spoken utterance with the help of the IPA alphabet or by orally spelling each morpheme of a written text). The fact that there are (scientific or other artificial) means of transferring one substance into another without any change or even loss of information and vice versa prove that the substance of a linguistic sign need not affect its function and its position within the respective system.<sup>13</sup> As linguists, for instance, we can refer to spoken language in the written mode.

As for natural systems, the position of a particular element within one mode (i.e. written or spoken mode) is rather independent of the function of an element corresponding to it in another mode. Irrespective of whether a written language classifier has a corresponding counterpart (“is pronounced”) in the respective oral realisation of the utterance or not, its status as a (written) morpheme does not change. Thus, describing Egyptian classifiers as “parts of the script but not of the language” is misleading. To escape from this dilemma by explicitly sticking to non-autonomous concepts of writing would not help. On the contrary, the considerable differences between the systems of Spoken Egyptian and Written Egyptian almost force us to attach ourselves to those theories of writing which stress the possibility of a partial autonomy of Written Language from Spoken Language.<sup>14</sup>

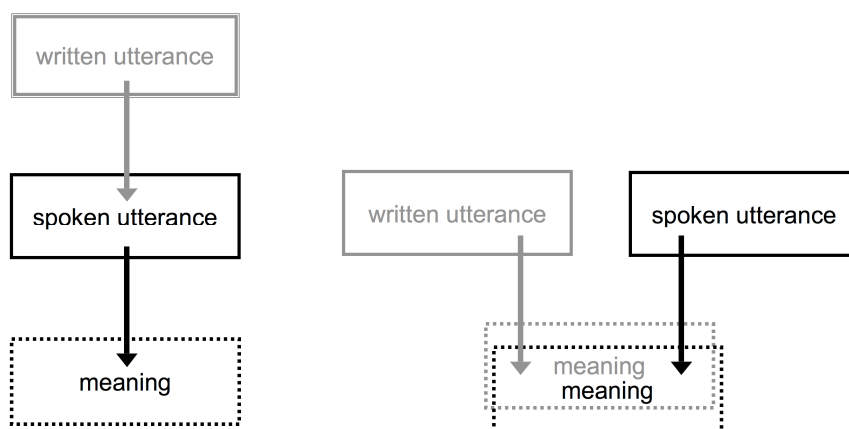


Figure 1. Signifiant–signifié relations according to two distinctive theoretical approaches to the status of writing: non-autonomous model (left) and autonomous model (right)

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model by arguing that – in extreme cases – the autonomy of the two systems goes even further, since there may be *systematic* differences between them (see Table 2) which may even result in contrasts of contents (see Figure 1).

- 13 To argue that a written classifier is not a morpheme but merely a grapheme because it does not correspond to any element in Spoken Language is just as strange as suggesting that the vocalic tier of Spoken Egyptian would be nothing but a sequence of phonemes without any morphological value because it left no traces in Written Egyptian. In addition, there is no doubt that sign languages have morphemes even though they are not spoken.
- 14 Cf. Glück (1987: 57-110) for a balanced discussion of different approaches with respect to autonomy or dependency of written language. The need for adhering to a model that allows for some degree of autonomy when dealing with Egyptian was advocated by Kammerzell (1993).

As a consequence, throughout this paper, we consider Spoken Language and Written Language two different systems which are closely interrelated with – but not straightforwardly dependent on – each other.<sup>15</sup> A Spoken Language speech act is not the *signifié* (or even: meaning) of the respective written text like in Figure 1 (left side). Instead, each of the two utterances realized in distinct modalities signifies a particular meaning which largely overlaps but is not necessarily congruent with its counterpart (Figure 1, right side).

Systematic differences between Written Language and Spoken Language are quite abundant in Egyptian, but the majority of them are of a nature that it requires a considerable degree of awareness of theoretical concepts and a willingness to conduct a strict analysis to identify them. One of the more obvious examples is illustrated in Table 2.

ENGLISH	Spoken Egyptian	Written Egyptian (late 2 <sup>nd</sup> mill. BC)
'I, my'	{[i: ~ij], 'PRON.1S'}	{(∅), 'PRON.1S'}
		{𓆎, 'PRON.1S'}
		{𓆏, 'PRON.1S'} <sup>16</sup>
		{𓆑, 'PRON.1S. <u>FEMININE</u> '}
		{𓆒, 'PRON.1S. <u>VENERABLE</u> '}
		{𓆓, 'PRON.1S. <u>ROYALTY</u> '}
		{𓆔, 'PRON.1S. <u>DIVINE</u> '}

Table 2. Non-equivalence between Spoken Language and Written Language morphology

While all available evidence – particularly that of comparative linguistics – suggests that there was only one suffix pronoun for the first person singular in Spoken Egyptian, written texts may attest several morphemes. Some of the morphemes in the right column of Table 2 have a more specified meaning and in some texts form morphological oppositions. In this way, they differ from cases of lexemes exhibiting alternating classifiers (which then constitute nothing but allomorphic variation without modifying the lexical meaning of the host).

The non-equivalence between Written Language and Spoken Language results from the fact that writing neither developed as a means of representing speech nor has the primary function of representing speech, but rather came into being and works as a tool to represent meaning (Ehlich 1983: 104-107, Kammerzell 2009). In the very beginning and for many centuries after the emergence of the Egyptian script the spectrum of meanings stored and processed by the new medium was much more

15 Of course, we do not deny that the spoken modality of language is phylogenetically as well as ontogenetically prior to the written one.

16 This morpheme has a more specified meaning when placed in contrast with one (or more) of the elements further down in the table, e.g. 'masculine' as opposed to {𓆑, 'PRON.1S.FEMININE'}, 'human' as opposed to {𓆔, 'PRON.1S.DIVINE'} etc.

limited than the subjects of oral communication. Nevertheless, the way of referring to a meaning in writing took over more and more strategies already existing in Spoken Language (double articulation, i.e. the use of strings of meaning-differentiating – but in themselves meaningless – signs to form meaningful elements, cf. Holenstein 1983; function words; rigid syntactic rules). By this process a system of graphic information processing became enriched by systematic rules of grapho-phonemic correspondence, developed into a writing system and achieved the capability to represent more or less the same amount of meanings as Spoken Language. But even though in the course of time Written Language spread to more and more domains originally exclusive for Spoken Language, there was never a functional equipollence in the sense that both systems were used to refer to the same types of meanings by producing the same types of utterances. One reflection of this incomplete overlap is mirrored in the existence of high register and low register texts and even genres in both Spoken and Written Language that are not existent in the respective other system.

### 1.3 What is a classifier?

Classifier systems have been defined as one type of overt nominal categorization systems among others (notably gender and noun classes) on the basis of their morphological forms, syntactic functions, and semantics (cf. Allan 1977: 285, Aikhenvald 2000: 13, Grinevald 2004: 1016).

In the literature, there are two different lines of reasoning in the definition of what a *classifier* is: (1) their discrimination against other linguistic categorization systems and (2) the identification of different subtypes of classifier systems and the construction of a typology of classifiers.

As for (1): By comparing classifiers with other systems of nominal categorization, Grinevald (2000: 61, 2004: 1016) places them at an intermediate stage on the continuum between the more grammaticalized *gender* and *noun class* systems on the one hand and the more lexical *measure terms* and *class terms* on the other hand:

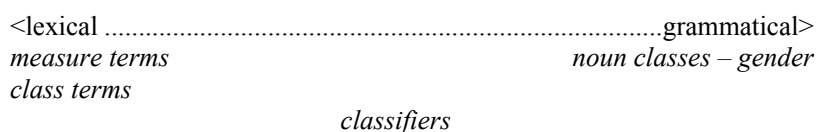


Figure 2. Systems of nominal classification after Grinevald (2000: 61, Fig. 2.1)

A list of features of gender and noun class systems as compared with classifier systems, established by Dixon (1982), advocated by Grinevald (2000: 62) and applied to the Egyptian data by Goldwasser (2006: 475-476), makes clear that the Egyptian sign function class under inspection shares the majority of features relevant for defining classifier systems:

	noun class / gender systems	Egyptian	classifier systems	notes	
1	classify all nouns		<b>X</b> do not classify all nouns		
2	into a smallish number of classes		<b>X</b> into a largish number of classes	variation according to period and writing system (e.g. set is smaller in hieratic than in hieroglyphic)	
3	of a closed system		<b>X</b> of an open system		
4	fused with other nominal categories (definiteness, number, case)		<b>(X)</b> independent constituent	bound morphemes, no fusion with other categories (except sometimes with number, cf. so-called “Old Kingdom plural”)	
5	can be marked on noun	<b>X</b>		not affixed to noun	for the position within a word-token, see Table 4
6	realized in agreement patterns	<b>(X)</b>	<b>X</b> marked once		rare cases of concord (see Kammerzell, <i>in print</i> )
7	N uniquely assigned to a class with no speaker variation <sup>17</sup>		<b>X</b> N possibly assigned to various classes at speaker’s will		
8	no variation in register	<b>X</b>		formal/informal uses	variation in register is not the rule but other pragmatic factors effect on the classifier choice

Table 3. Gender versus classifier systems applied to Egyptian data  
(adapted from Grinevald 2000: 62, Table 2.1)

As for (2): The similarities in their classificatory function and their semantic relation to their hosts, i.e. the fact that they classify with respect to semantic features of the classified entity, is one of the reasons why morphemes in syntactically distinct environments have been subsumed under the term *classifier* (Allan 1977: 285). According to Grinevald (2000, 2004), the most widely attested types of classifiers are:

- *numeral classifiers* (classifiers occurring in constructions of counting and quantity)
- *genitive (or possessive) classifiers* (occurring in constructions of possession)
- *noun classifiers* (serving as determiner or anaphoric pronoun of the classified noun)

<sup>17</sup> However, there is considerable variation due to pragmatic factors or register in some gender systems, e.g. in Amharic and Hebrew as Yaar Hever and Eitan Grossman pointed out to us.

- *verbal classifiers* (classifying the subject or object of the verb, realized on the verb)
- There are some more, less frequently attested, “marginal” types of classifiers, like *locative* and *demonstrative classifiers* (Grinevald 2000: 68-69, 2004: 1024; Allan 1977: 288; Aikhenvald 2000: 172-183).

This typology is based on a criterion which claims that classifiers are

“restricted to particular construction types known as ‘classifier constructions’. Classifier constructions are understood as morphosyntactic units (which may be noun phrases of different kinds, verb phrases, or clauses) which require the presence of a particular kind of morpheme [i.e. a classifier, ESL&FK], the choice of which is dictated by the semantic characteristics of the referent of the head of a noun phrase.” (Aikhenvald 2000: 13)

Grinevald (2000: 62, 2004: 1019) puts it in other words, stating that the morphosyntactic typology of classifiers is mostly based on the locus<sup>18</sup> of the classifier, i.e. “labelling the classifier by which morpheme it is closest or attached to” (Grinevald 2000: 62). This is a typology that discriminates classifier types against each other according to the classifier’s host.

Actions and events, usually encoded by means of verbs in most languages, can also be overtly classified. These classifiers are called *verb classifiers*. This type of classifier refers to the verb itself and stands in contrast to *verbal classifiers* (see above), as the latter pertain to a nominal element that is an argument or a complement of the verb. Verb classification has only been studied for a small number of languages. In Jaminjung, for instance, a classifying *generic verb* determines the event type that a complex verbal predicate (generic verb + coverb) belongs to (Schultze-Berndt 2000: 211-420). In the Australian language Gooniyandi, *verb classifiers* profile the *Aktionsart* of an event (McGregor 2002: 41-45, 56-59). Classifiers in some Southeast and East Asian languages (Kam, Thai and Cantonese) that have been called *verb classifiers* actually seem to be *numeral classifiers* in constructions that are used to quantify events or their duration (Gerner 2009, Matthews & Leung 2004). There are, however, also other ways to classify verbs, with *noun class markers*, for instance. In Gùjjolaay Eegimaa, a language from the Niger-Congo family, noun class markers are used to form non-finite verb forms, i.e. verb forms that have “both nominal and verbal properties” (Schultze-Berndt & Sagna 2010). Verb classification is still quite unexplored and survey literature that establishes a typology of verb classification is not available for the time being. Egyptian – with its abundant evidence for classifying morphemes which are suffixed to verbal lexemes and which do not pertain to nominal arguments or complements (Lincke 2011: 81-90) – may contribute some interesting data to future discussions of this matter.

The above cited morphosyntactic typology of classifiers as proposed by researchers such as Allan and Grinevald is not meant to exclude possible other (e.g. hitherto unresearched) types of classification devices but to discriminate between the different known types of classifiers in order to avoid terminological confusion when using the term *classifier* (Grinevald 2000: 53). The morphosyntactic criterion was the

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18 This *locus* is what we call *host*.



best one to establish a subcategorization of the nominal categorization devices that had already been described and called *classifiers* because of similarities in their semantics (!) and in their relation to their hosts when Allan and his successors defined the term. Grinevald stresses that this typology is based on accounts of data published so far, an approach that entails future modifications if necessary (2004: 1019). According to Grinevald (2004: 1018), “there is so far no agreed upon set of criteria to determine unambiguously which systems qualify as classifier systems per se and which do not.” Thus, linguistic typology seems more than prepared for the Egyptian material.

That classifiers are not limited to oral language results not only from theoretical principles like those put forward above, but is also shown by the widely accepted identification of morphemes in several Sign Languages as *verbal classifiers* (Grinevald 2003, Emmorey 2003, Suppala 1986).

Our knowledge about the morphosyntactic rules of Egyptian classifier usage is still very limited because their status as morphemes has been ignored for a long time. It is also a bit blurred because of the circumstance that most studies have surveyed the overall use of individual signs or small groups of signs and their semantics. As a consequence, only little evidence has as yet been brought forward against the widely shared opinion of Egyptian classifiers being “non-obligatory” elements, inserted or not with little regularity and exhibiting an enormous amount of – seemingly free – variation.<sup>19</sup> Scrutinizing delimited corpora or even individual texts, however, uncovers much more regularity<sup>20</sup> and results in a rather different picture.

Beside the subdivision of classifier systems by types of construction or morpho-syntactic locus (host), it is also possible to categorize classification systems by the factors that determine their assignment. Generally speaking, these factors can be either formal or semantic (Corbett 1991). For her study on gender assignment in Maasai, Payne (1998: 161) suggested a refined typology of formal factors (A) and semantic or pragmatic factors (B-D). This typology proves very fruitful not only with respect to gender systems but also for noun class and classifier systems:

- A. *Formal*: Gender is primarily based on phonological or morphological declension patterns.

This is the case in a lot of gender systems or at least parts of them. An often cited example is German *Mädchen* ‘girl’ where the morphological rule of gender assignment – word-forms with the diminutive ending *-chen* have neutral gender – rules out a semantic classification according to the natural, female sex of the noun’s referent (Allan 1977: 291). Semantic cum phonetic (formal) principles can also govern assignment in noun class systems such as Tsez (Comrie & Polinsky 1999; Plaster, Polinsky & Harizanov *in print*). Even the famous Dyrbal noun class assignment seems to be partially based on phonetic rules rather than on semantic chaining (Plaster & Polinsky

19 A comprehensive analysis of verb classifiers in a Late Egyptian literary text (Kammerzell, *in print*) shows that its system is rather rigid, showing scarcely any variation and employing classifiers on every verb (including a  $\emptyset$ -classifier for function verbs). A considerable degree of variation in the Pyramid Texts could be explained by Lincke (2011: chapter III) as referent classification.

20 Cf. Kammerzell (*in print*). Also, in particular texts from the New Kingdom, certain affixed hieratic signs are regularly used to convey metatextual information, i.e. “foreign origin of the word” (Allon 2010).

2007, 2010). Nevertheless, this type of assignment is not relevant for Egyptian classifiers, as far as we know.

- B. *Lexical-semantic*: Gender transparently depends on lexical meaning of the noun root or stem.  
This type of assignment is based on lexical semantics and the semantic frame of a lexical element. It corresponds to lexical classification in Egyptian as will be explored in Sections 3.3.1 and 3.3.3.
- C. *Referential-semantic*: Gender depends on features of the noun's intended referent. This factor is sensitive to discourse, as a particular referent is assigned when a lexical element gets activated in discourse. It corresponds to Egyptian referent classification, as will be outlined in Section 3.3.2.
- D. *Cognitive-semantic*: Gender depends on speaker's construal of the intended referent. This type is closely related to the preceding type C.<sup>21</sup> It accounts for the fact that features of referents are not necessarily objective but can depend on the point of view of the speaker and their evaluation of the communication situation as well as their intentions. Therefore, it integrates pragmatic parameters. We will briefly consider the implications of this factor for Egyptian in Section 4.

To sum up: classifiers in Written Egyptian are bound morphemes and very similar to classifiers in other languages with respect to their semantics, their position within categorization systems, their information contribution, as well as their ties with the hosts' lexical meaning (Payne 1998: type B) or their hosts' referents in discourse (type C) or their pragmatic potential (type D). We will further explore this in the following sections.

The morphosyntactic functions of classifiers in Written Egyptian seem to be less prominent than in case of other languages, though hardly non-existent – and one has to take into consideration that scarcely any research has been done in this direction. It seems that there are more and less prototypical classifier-using languages. From this perspective, Egyptian, when compared to prototypical classifier-using languages, is no more peripheral than other less prototypical classifier-using languages. Egyptian classifiers are in no way less strictly categorizing, more flexible or more idiosyncratic than classifiers in other languages.

## 2 Classifier meaning and category structure

### 2.1 The meaning of classifiers

#### 2.1.1 Semantics and origin of classifiers in Spoken Language and Written Language

Classifiers in Spoken Language are morphemes at an intermediate stage between lexicon and grammar. They are assumed to be derived from lexical elements and to pass through a grammaticalization process which may possibly result in a noun class or gender system (Grinevald 2004: 1028). Classifier systems and other nominal categori-

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21 Payne (1998: 168) argues that, in fact, type C cannot exist, as referents always depend on the speaker's construal and conceptualization. *Strictu sensu*, this is right of course. For the time being, however, we would like to keep the distinction between type C and type D, with type C relying on features that all speakers of a language might associate with a particular referent, while features in type D are situation and context dependent in the narrower sense. Further research may judge whether this division is useful for Egyptian or whether it should be deleted as claimed by Payne.

zation systems can, of course, also be borrowed from another language (see examples from diverse nominal categorization systems including classifier systems in Aikhenvald 2000: 383-388 and Seifart 2010: 730; for classifiers only cf. Downing 1986: 346 for Japanese and Grinevald 2004: 1028). The lexical origin may be one reason why they can have a lexical meaning and not infrequently appear as independent lexical elements. This meaning may be transparent for speakers or may have lost its etymological transparency over the course of time. Furthermore, the entirety of members of the category marked by a classifier also affects the meaning of the classifier and can change it. As a consequence, determining the meaning of a Spoken Language classifier can be approached from two directions:

- (1) To a certain degree, information may be deduced from the meaning of the lexeme that has developed into a classifier – if its semantic function is still transparent or can be reconstructed.
- (2) The actual meaning of a classifier can be inferred from the totality of members of the category that this same classifier defines and from the internal structure of this category marked by the members' position within it. Given the fact that a category usually comprises prototypical members and less typical ones, we should be prepared to discriminate between a core meaning and a more general meaning. This can be done by means of data collection from a corpus or by elicitation. Another way, mentioned by Allen (1977: 290), might be the intuition of native speakers.

Classification in Written Egyptian is a sign function, with classifiers representing the third major type of sign function classes besides phonograms and logograms (cf. above, Table 1). A classifier in Egyptian fills a syntactic position in a word-form (or phrase) and has a meaning, as outlined above. Therefore, we have to ask how to determine its meaning. There are three possible ways to reach the meaning of an Egyptian classifier.




















- (1) The meaning of those classifiers which developed from logograms – one type of Written Language forms of lexemes – can be determined rather easily (cf. 2.1.2), but we have to keep in mind that this meaning is confined only to repeater-like unique classifiers. In the moment a second, non-synonymous element is classified with the same hieroglyph, the meaning of the latter has already undergone a change (cf. 2).
- (2) It is also feasible to narrow down the meaning of a classifier by regarding the members of the category it builds and to induce its meaning from the structure and patterns of the category as revealed by its members (cf. Goldwasser 2002: 13-14). The classifier's position in the net of oppositions between all classifiers of a given language or corpus is also not without relevance. This is an option that is widely chosen for classifiers in Spoken Language in order to explore their extension or when the lexical meaning of the classifier is not transparent (any more). The advantage of this option is that it can account for the impact of the category on the hieroglyph that serves as its classifier and that it ensures that we are not taken in by the perhaps only seemingly iconic value of the classifier. This matter will be discussed in Section 2.1.3.

- (3) Furthermore, one can make use of our knowledge of Egyptian rules of pictorial representation and determine the meaning of a hieroglyph by its iconic character (Goldwasser 2002: 13). The meaning of the hieroglyph would then correspond to the object, creature, action, or event that is iconically represented by it. This is the best option for repeaters and most of the classifiers already attested in the Old Kingdom (for exceptions see Goldwasser 2006: 480-483 and Lincke 2011: 70-80). This procedure is comparable, though not equivalent, to the identification of the meaning of a spoken language classifier by its primitive lexical meaning. It will be discussed in Section 2.1.4.

As far as we know, all three options are useful in some way for the exploration of the Egyptian material. Option (1) – although excluded by Goldwasser (2002: 25)<sup>22</sup> – is highly interesting with respect to the emergence of the Egyptian classifier systems, as Section 2.1.2 will reveal. Option (2) has to be taken into account when studying the diachronic development of categories and when working with material from classical and later periods. Option (3) is of interest because of the existence of a relatively large number of unique classifiers in the form of pictorial repeaters that may be spontaneously created.

### 2.1.2 Logograms and the emergence of Egyptian classifiers





The question of the lexical origin of classifiers in Egyptian cannot be answered satisfactorily.<sup>23</sup> All that we know for sure to this point may be summed up as follows:











- There is a considerable number of hieroglyphs which, according to the extant material,<sup>24</sup> had indeed been used as logograms prior to their first attestation in the function of a classifier. This holds true for several signs which in Classical and Late Egyptian appeared as classifiers with a particularly high frequency, e.g. , , , , , , , , , .
- A few hieroglyphs shaped after parts of the human body – eye , nose , and penis  – served as classifiers already in Archaic Egyptian but occurred only later in the function of logograms. Since this situation is probably only due to the fact that there weren't any texts dealing with human body parts in the earliest periods of Egyptian writing, the existence of the respective lexical elements in Spoken Egyptian can be taken for granted, and it is probably no big risk to assume that these classifiers emerged from “virtual logograms”. This hypothesis is further substantiated by the fact that  and  also were utilized as phonograms very early and then corresponded with sequences of consonants which were derived from the respective nouns.
- At first glance, the graphemes with the shape of a woman, man, dwarf, and warrior – , , ,  – exhibit similar properties to the last-mentioned group.

22 “A classifier’s meaning should be reached through *iconic* reading only, in disregard of its phonetic value.”









23 One should stress in this context that the concept of a general lexical origin of Spoken Language classifiers is a claim that has no particularly strong empirical confirmation on the basis of abundant diachronic data.

24 The following pieces of information about the uses and dates of attestation of hieroglyphic graphemes are based on the sign list provided by Kahl (1993).

However, they do not only belong to the small group of perhaps a dozen signs exemplifying the earliest usage of classifiers in the period between the early 30<sup>th</sup> and the mid-29<sup>th</sup> century BC, but continued to be utilized exclusively in the function of classifiers for a long time ( for about one,  and  for more than two, and  for close to four centuries). Under these circumstances, we have to be prepared for the possibility that the classification of human beings in Written Egyptian did not emerge along the “normal” path of grammaticalizing lexical elements. Instead it seems that signs as such had been deliberately created as classifiers.




- As to their age and usage, , , , , , and  – all connected with commodities that were weighed or measured – perhaps must be considered constituting another group of classifiers that did not originate from logograms.
- , a kind of ship, did not develop from a single logogram but from a complex combination of iconic sign and phonogram  (or even ). See also  in ex. (7b) of this paper (and cf. Lincke & Kutscher, this volume).



Notwithstanding the urgent need for further research on this topic, it is highly probable that a shift in sign function class from logogram to classifier was not the only origin of Egyptian classifiers.





It should be noted that it is only the logograms that are in a semantically transparent and motivated, hence iconic, relationship with the root that developed into classifiers. Non-iconic logograms, such as  *z3* ‘son’,  *mww-t* ‘mother’,  *3h* ‘effective, useful’,  *33* ‘many’,  *h3* ‘thousand’,  *hrw* ‘voice’,  *nh* ‘life’,  *mn* ‘remain’, were never used as classifiers with a function derived from their logographic usage.







### 2.1.3 The category as a basis for establishing a classifier’s meaning






Another way to establish the meaning of a hieroglyph at a given point of time is to consider its use in the language and to infer its meaning from its usage. This characterizes Goldwasser’s approach. She writes:


“(…) , when activated as a classifier, moves away from its iconic meaning which should be ‘a falconide god’ or ‘Horus, the falcon god,’ into the general meaning of ‘god’ or [DIVINE]. This semantic movement must occur as the pictogram is activated as a classifier for diverse divine beings which have clear zoomorphic manifestations, such as Sobek, the crocodile god , or a strongly anthropomorphic nature, such as Amon .




A quite similar process has been observed in the development of the classifier , iconically representing a duck and originally serving as logogram (or repeater) for *3pd* ‘duck’. According to Goldwasser, the duck was a central member of the [BIRD] category in Ancient Egypt. Therefore, the hieroglyph  could be used as a classifier for all central and peripheral members of the category [BIRD] (Goldwasser 2002: 19). The meaning of the hieroglyph itself would undergo a change from ‘duck’ to ‘bird’.<sup>25</sup>

25 Cf. Goldwasser: “The fact that as a classifier it [the hieroglyph , ESL&FK] changes its semiotic status from ‘duck’ or ‘waterfowl’ into ‘bird’ is well illustrated by its conspicuous appearance, at rather an early stage, as the classifier of the word *bik*   .

While we fully agree with Goldwasser about the interrelatedness of an extended usage and a changed meaning of the classifier, we suggest that the internal structure of the process should be described more precisely. If a second lexical element besides *ʔpd* ‘duck’ gets  as its classifier the relationship between  and *ʔpd* ‘duck’ is no longer exclusive (i.e.  is no longer a unique classifier). Instead, there is a new category with two members, marked by the classifier . This category does not imply that a category like [BIRD] pre-exists in the speakers’ community. The membership in the new classifier category rather depends on the new elements’ similarity with the original host of  (or with the object or being that is depicted by the classifier) than on their membership in a category such as [BIRD]. Over time, the number of elements that are members both of a Spoken Language category under the hyperonym *ʔpd* ‘bird’ and of the Written Language category  may increase. Thus, the overlap between the Spoken Language category and the Written Language category may become considerable.

On the other hand, there are members of a category marked by  that cannot be attributed to a taxonomic category such as [BIRD]. Instead, their relationship with the classifier (or the original host of ) is metonymic (cf. our comments on  and other classifiers of complex categories in Section 2.2.2.2). Membership in the category marked by  is, therefore, not dependent on a membership in a taxonomic Spoken Language category like *ʔpd* ‘bird’ or a (covert) cognitive category like [BIRD]. This is important because the plurality of assignment rules results in complex category structures as described in Section 2.2. Complex categories like the one marked by  are not necessarily a direct Written Language reflection of overt or covert categories either in Spoken Language or in the mind but rather the outcome of a – possibly quite multi-faceted – practice of usage.









Assuming that it is its similarity with the primitive, i.e. prototypical, host or the object depicted by the classifier that triggered the use of a classifier for a new element enables us, on the one hand, to explain some cases of considerable extension of Written Language categories. On the other hand, it acquits us from implying that the Spoken Language category had changed and resulted in a rather bizarre, highly heterogeneous category (cf. also our remarks on the development of , F27, in Section 2.2.2.2).

An example in which the default meaning of the classifier seems to get attracted and modified by a sub-category is . This classifier in most cases marks lexical elements from the categories [WIND] and [BREATH] – instead of [SAILING], as its iconic meaning would suggest (see Sections 2.1.4 and 2.2.2.3). When considering the use of this classifier it seems like it took the meaning of ‘wind’ (instead of ‘sail’) once it was used for kinds of winds in the Old Kingdom. Similar effects have been described for the diachronic development of Chinese numeral classifiers (Wiebusch 2000: 221-222 for numeral classifiers *tiao* and *gen*). Another case of this type may be  (G37) in *nds* ‘be(come) small’ (cf. Section 2.2.2.2). With , presumably, we can observe a category centre shift that probably affects the classifier’s meaning. A usage-driven modification of the category centre is not in accord with the idea that a classifier is chosen for an overt or covert category pre-existing in the speaker’s mind as Goldwasser’s examples seem to suggest. We can summarize that a category can retro-


actively affect the meaning of its classifier, may reduce its iconic power and its *ad hoc* identification by strengthening the sign's conventionalized meaning and therefore its more arbitrary character.









In the following section (2.2), we will discuss in more detail some categories that are marked by a classifier without being pre-existent in the lexicon and/or mind of the speakers. In order to avoid misconceptions, we would like to stress that our way of referring to categories by means of expressions like [BIRD] or [WIND] is not meant as a precise definition of the said classes (or even as indicating equivalence with the respective categories of Modern English). Instead, we use these sorts of meta-linguistic terms merely as convenient labels which – like interlinear glosses – enable us to talk about the relevant items and give a rough idea about their nature.

#### 2.1.4 The icon as a starting point for a category



The overwhelming majority of Written Language classifiers recorded in monumental hieroglyphic script are iconic – insofar as their shape has a certain degree of similarity with the shape of the object referred to. Obviously, even an iconic sign can never have one hundred percent conformity with its referent. There has to be an abstraction process when representing an entity in a hieroglyph (for more details, see Lincke & Kutscher in this volume). However, this approach entails the default identification of hieroglyphically depicted objects, creatures and their configuration in hieroglyphs depicting actions in the same way as when looking at them in pictorial representations like painting and relief:  is a man,  is a woman,  is a duck,  is a horse,  is a tree,  is a lake,  is a man carrying a basket,  is a woman nursing a baby and so on. When such a hieroglyph is chosen as a classifier or – if it is not yet part of the sign inventory of the scribe – newly created to serve as a classifier it enters into a semiotic relation with the lexical element to which it is assigned as a classifier. This relation can be:<sup>26</sup>

- repeater-like (pictorial),
- taxonomic (= synecdoche, super- and rarely subordinate),
- metonymic (meronymic = *part//whole*; *whole//part*; semantic roles; shape).

Theoretically, we have to consider the possibility that a hieroglyph – instead of being associated with a meaning with which it is in an image-iconic relationship – could be in a different, schematic-iconic, i.e. metonymic relationship with its meaning (cf. Lincke & Kutscher in this Volume). The hieroglyph  (P5B)<sup>27</sup> depicting a sail, for instance, is already widely attested in the Pyramid Texts as classifier for names of wind and appellatives of different kinds of wind:

- (3)    *ḥw* ‘wind’ (Pyr. 887a<sup>N</sup>),  
 used as a logogram in  (Pyr. 291b<sup>W</sup>),   (Pyr. 291b<sup>W</sup>)  
  *jḥb(-j)* ‘east wind’ (Pyr. 554b<sup>M</sup>)

26 For a general discussion of these relations with examples, cf. Goldwasser (2002) and Lincke (2011: chapter II).

27 For ease of description, we tentatively consider  and  allographic variants of the same hieroglyphic grapheme.

	<i>jwnw</i>	‘wind’ (Pyramid Texts 1071 <sup>P</sup> n.f.)
	<i>jmn(-j)</i>	‘west wind’ (Pyr. 554b <sup>M</sup> )
	<i>mh-(w)t</i>	‘north wind’ (Pyr. 554c <sup>M</sup> )
	<i>rsw(-j)</i>	‘south wind’ (Pyr. 554c <sup>M</sup> )
	<i>qr</i>	‘storm’ (Pyr. 261a <sup>W</sup> ), also <i>qrr</i> (Pyr. 281a <sup>T</sup> )
	<i>q<sup>c</sup></i>	‘storm’ (Inscription of <i>K3(=j)-m-tnn-t</i> , 24 <sup>th</sup> cent. BC, <i>Urk. I</i> 182,16)

At this early time, the hieroglyph is not attested as a classifier for appellatives for sails or other parts of ships. From this empirical data, it seems that (P5B) had not served first as a repeater or logogram for ‘sail’, adopting the meaning of the respective lexeme (as discussed as a source for classifiers in Section 2.1.2). The Egyptian standard expression for the object depicted, i.e. *ht3w* ‘sail’,<sup>28</sup> did not occur before the late Twelfth Dynasty and then could also attract the classifier – thus not even constituting the centre of the category.<sup>29</sup>

Taking the approaches described in the previous two sections seriously we could assume that due to its use as a logogram for *t3w* ‘wind’ and due to the effect of the category (only designations of wind at that time) on the meaning of its classifier, the grapheme must have been tied to the meaning ‘wind’ (or ‘airflow’) rather than ‘sail’ (cf. Figure 3).

	genuine host (LOGOGRAM and CLF)	CLF	secondary hosts (CLF only)
form	( <i>t3w</i> )		( <i>m3cw</i> )
meaning	‘wind’	‘wind’	‘(tail) wind’-wind.CLF

Figure 3. Hypothetical reconstruction of the meaning of as a classifier

This analysis entails a meaning of that is grounded in a conventionalised metonymy (*sail for wind*) instead of an image-iconic meaning (*sail for sail*). Thus, the relationship between the classifier with a conventionalised meaning ‘wind’ and designations of wind is repeater-like or taxonomic (wind.CLF on names of winds) rather than metonymic as it would be with an image-iconic reading of (sail.CLF on names of wind)!<sup>30</sup>


On the other hand, we must not take it for granted that the comparatively late attestations of as a classifier for *ht3w* ‘sail’ definitely exclude the possibility that this noun had been the original host of . Furthermore, the fact that is attested as a classifier for *ht3w* ‘sail’ is a strong argument for the (re)activation of its



28 Attested in pBerlin P3023 + pAmherst I (*Eloquent Peasant* B1), 87/old 56.



29 See pRamesseum A = pBerlin 10499, rto. (*Eloquent Peasant* R) 14,4/old 99 and pAmherst + pBerlin P3024 (*Lebensmüder*) 133.

30 In this case, the metonymic relationship (*sail/wind*) is between the hieroglyph (form) and its meaning as a classifier rather than between classifier meaning and classifier host.




image-iconic meaning of SAIL.<sup>31</sup> If so, the relation between  and *ht3w* ‘sail’ is repeater-like.

However, we cannot decide which one of the possibilities discussed above is in general the more probable one or if they coexisted (which seems reasonable). The question stays purely theoretical. Still, it highlights one fundamental difference between classifier systems of Spoken Languages and those of Written Languages. This difference is due to the interlacing of elements with counterparts in Spoken language (phonograms and logograms) and image-iconic elements without such counterparts (classifiers) in Written Egyptian whereas Spoken Language classifiers are transmitted in the same mode (oral speech) like the other morphemes of the language and are mostly arbitrary.<sup>32</sup> In Spoken Language, the semantic transparency of an element having been grammaticalized into a classifier can be sustained or lost depending on the preservation or deletion of the word it was derived from in the (passive) lexicon of the speech community. And by studying synchronic data it is possible to judge whether this is the case or not. As for hieroglyphs, we have to assume that their iconic value was apparent to the scribe even if he knew that the sign was usually used with very little allusion to the object that it represents (e.g. in the case of  in the *Book of Caverns*, see Werning 2011: 100-101, § 4, or as residual classifier in the *Story of Wenamun*, see Kammerzell, *in print*). Moreover, we cannot find out whether a scribe of the New Kingdom would have associated  rather with a papyrus roll or a much more abstract category. For practical reasons, we assume in the following that the iconic interpretation is the default one, the one that always stays possible and could be revitalized.

In our description, we decided to prefer the iconic interpretation to the metonymic one. One of the reasons for this is that in making use of the hybrid potential of the hieroglyphic writing system (Kammerzell 2009: 297) and creating new signs the results are rather image-iconic and not metonymic or even symbolic graphemes – since the hieroglyphs created are repeaters in most cases. In addition, there is some empirical evidence indicating that even in case the iconic referent was most likely not the historically primary host of a classifier, it may have been “reactivated”: In the so-called Tanis Sign-Papyrus, a hieroglyphic-hieratic sign list of the 1<sup>st</sup> century AD, the hieroglyph  is not explained with respect to its (predominant) usage as a classifier building the category [AIRFLOW, WIND] but instead described as  *ht3w* ‘sail’.<sup>33</sup>

Thus, we will describe the semantics of a classifier and of a category by preliminarily assuming that the original meaning of a classifier corresponds to the default identification of what is depicted. Individual case studies will prove useful, and probably necessary, to make progress on this question. However, we would like to stress that describing classifier-lexeme relationships by means of the iconic value of a hieroglyph as a starting point is a methodological decision. We don’t claim that this

31 The reconstruction  ‘wind’ in a metonymic relationship *force/tool*, i.e. *wind/sail* (!), seems semiotically odd and would fall under Ockham’s razor.

32 In Thai, however, there is evidence for iconicity (sound-symbolism) in classifiers (Matthews & Leung 2004: 451-456).

33 Cf. *Sign Papyrus* XXIII, 7 (Griffith 1889: pl. V).

approach is “cognitively realistic”. It is a semiotic point of view. It is possible that both the iconic and the symbolic encoding of meaning coexist in the human mind.

## 2.2 Complexity and heterogeneity of category structure

### 2.2.1 Specificity of classifiers

Languages with overt means of classification may differ with respect to the specificity of their classifiers. Variation in the specificity of classifiers can also be found within one and the same language. If the assignment of a classifier is restricted to one lexeme only it is called a *unique classifier* (Grinevald 2004: 1017). Egyptian has a considerable number of unique classifiers in hieroglyphic texts (and to a much lesser degree in hieratic texts). These classifiers are often image-iconic, either depicting the object, living being, or action iconically (cf. Lincke & Kutscher, this volume). Therefore, they often are *repeaters* in Goldwasser’s sense of the term, depicting the prototypical referent of a lexeme or its intension in the medium of the script (Goldwasser 2002: 15). A *unique classifier* loses its “uniqueness” as soon as it is assigned to a second lexeme (e.g. the opposite co-ordinate of the lexeme that it was first assigned to<sup>34</sup>). Due to the long period of attestation of Egyptian and the different preferences in different texts and times, this is highly probable in most cases. Furthermore, semantic bleaching is what is to be expected from a classifier system as it grammaticalizes.

On the other end of the scale, there are *general classifiers* (Grinevald 2004: 1017) that can be used with a large number of hosts. General classifiers may even become *default classifiers* that can be assigned to any noun (or verb). A third type of classifiers that Grinevald calls *specific classifiers* (2004: 1017) is situated in between these two extremes, unique classifiers on the one hand and general classifiers on the other hand. If a classifier is a *specific* or even a *general classifier* the category marked can be quite heterogeneous due to its extension (Grinevald 2004: 1017). We therefore have to ask about the heterogeneity of Egyptian categories built by classifiers.

### 2.2.2 Models of category assignment and structure

There are several ways of internal organization of categories. Grinevald (2004: 1018) lists the checklist model, the prototype model and chaining as relevant for describing the semantics of categories in classifier systems.

#### 2.2.2.1 The checklist model

The checklist model accounts for category assignment on the basis of one or several necessary and sufficient features. Although this model is very important in certain practices of scientific categorization, its impact on natural categorization processes is rather limited due to its rigidity and inflexibility. It can help only in cases where the assignment to a particular class is triggered by general features like [animate] or [human]. Studies on Egyptian classifiers (David 2000, Goldwasser 2002, Shalomi-

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34 On the concept of opposite coordinates see Lincke (2011: 64-69).

Hen 2006) have demonstrated that this model should not be considered the most appropriate one for the specific characteristics of the Egyptian material.

### 2.2.2.2 The prototype model – beyond taxonomies

The prototype model describes categorization as a natural and unreflexive processes in every-day life. It is not a means to explore scientific categorizations that are based on necessary and sufficient features. In the beginning, it was established to explain memberships in natural (folk) taxonomies. A *prototype* is a central, most typical member of a category. According to Rosch (1978: 30-37), a prototype has the highest *cue validity* of all members of a category, i.e. it is the most distinct from members of other categories. At the same time, a *prototypical* category member represents the very average of the category with respect to all measurable features (Rosch 1978: 37). Other members of a category are more central the more they resemble, i.e. the more features they share, with the (or a) prototypical member of the category. Members that are rather untypical of a category are called *peripheral* or *fringe* members. Peripheral and fringe members of one category can also be non-central members of another natural taxonomic category, while central or prototypical members usually cannot. A dog, for instance, is a prototypical member of the taxonomic category [MAMMAL] but is not a member of another taxonomic category (except a superordinate category like [ANIMAL] that includes [MAMMAL]). A whale, by contrast, is not a prototypical member – at least from a non-scientific point of view – because it lives in the water, does not have (visible) legs, fur, etc. Thus, a whale is a fringe member of the category [MAMMAL]. On the other hand, in folk taxonomy, a whale can also be considered as a member of the category [FISH] (see German *Walfisch* ‘whale fish’) but, again, only at the periphery because – although it spends its whole life in the water – it is livebearing, nurses its calves, and breathes through lungs.

The prototype approach to categorization and category membership has proven very fruitful for classifier studies concerned with the structure of categories marked by a classifier. It has been used successfully to analyze some Egyptian classifiers (Goldwasser 2002, Schwarz 2005, Shalomi-Hen 2006). Its application, however, has been restricted to taxonomic categories. For instance, Goldwasser (2002: chapter 4, esp. p. 61) describes  $\text{𓆎}$  as a classifier marking a complex category that is subdivided into a category [QUADRUPED] or [HIDE&TAIL] with a taxonomic structure (Goldwasser 2002: 62-63) and a category [LEATHER] characterized by a meronymic relationship (schematic in Goldwasser’s terminology) between the classifier and its host (Goldwasser 2002: 62). The super-category marked by  $\text{𓆎}$  looks like a purely formal category, its sub-categories, [QUADRUPED] and [LEATHER], seem to belong to the same superordinate category just because they share the same classifier. This kind of category has been called *complex category* by Goldwasser (2002: 61, followed by Lincke 2011) but may also for the moment be called *formal category*, as outlined in this paragraph.

When considering category structures in classifier systems it can be stated that the prototype model does not only account for the graded membership structure of taxonomic (sub-)categories but also for the structure of complex, seemingly formal, categories. Matsumoto (1993) demonstrates prototype structures and effects in some detail

for Japanese numeral classifiers and the respective category structures. These categories to a certain extent resemble the complex categories in Egyptian. For instance, the Japanese classifier *-dai* is used for some vehicles and machines. Acceptability tests have shown that *car* is the prototypical member of the category marked by *-dai* because there are no acceptability restrictions for *car* (Matsumoto 1993: 687, Fig. 4). The analysis of the sum of members of the category reveals four prototype conditions: MECHANICAL, PLACED ON THE GROUND, DETACHED (i.e. not fixed to other bodies), and CARRYING THINGS (Matsumoto 1993: 686). The more conditions are met the more acceptable and the more central is an object within this category. The list of “good” members of this category (acceptability values with 6.0 as the highest possible value) provided by Matsumoto (1993: 687 incl. Fig. 4) shows that its members cannot be attributed to a taxonomic category: *car* (6.0), *TV set* (5.9), *rickshaw* (5.5), *escalator* (5.2), *bed* (4.9), *table for table tennis* (4.75), *refrigerator* (4.5), *radar* (4.4). Thus, typicality of members in this category is not bound to being in the same taxonomic category as the prototypical member *car*.

In Egyptian too, there are categories that, unlike taxonomic categories, do not have a homogeneous structure organized around one prototypical member of a natural taxonomy. For instance, the category built by  $\square$  (O39) – a hieroglyph depicting a stone block – is complex in its structure:

- (1) A number of names of rock (types of stones) that can take  $\square$  as classifier, e.g. *jbh-tj* ‘gneiss’, *jnr* ‘stone’, *jrqs* ‘rock crystal’,  $\text{ʕ-t}$  ‘precious stone’, *ʕn* ‘limestone’,  $\text{ʕr}$  ‘pebble’,  $\text{w}^3\text{d}$  ‘green stone, malachite’, *bj-t* ‘(Egyptian) alabaster’, *bjʕ* ‘(meteoric) ore’, *bln* ‘greywacke’,  $\text{m}^3\text{t}$  ‘(rose) granite’, *mn-w* ‘quartz’, *mnt-t* ‘diorite’,  $\text{h}(\beta)\text{b}$  ‘turquoise’,  $\text{ʕs}$  ‘(Egyptian) alabaster’ (incomplete list, based on *TLA* search for hieroglyph O39, accessed 2011-07).

These might constitute the members of a taxonomic category [STONE], probably with *jnr* ‘stone’ as the central member, because all of these are more or less typical stones in Ancient Egypt. However, there are members of this category that are not kinds of stone as will be shown in the following.

- (2)  $\square$  can be assigned as a classifier to a number of names of construction elements, parts of buildings and other objects – because they are usually made of some sort of stone,<sup>35</sup> e.g.

*bnw-t* ‘millstone’, *mw-t* ‘balance weight’, *mrg-t* ‘cave’, *rwy-t* ‘architrave’, *hwy* ‘[part of an obelisk]’, *sp-t* ‘base (of a column or stela)’, *ʕps* ‘tomb-chapel’, *ʕd* ‘mortar’, *qd-t* ‘kite [a measure of weight]’, *dby-t/dbʕ-t* ‘base, pedestal’, *dh-wt* ‘boulders’ etc.

- (3) There are also other lexemes taking the classifier  $\square$  that cannot be attributed to this category on the basis of a taxonomic relation. The following lexemes

- *dns* ‘to be heavy’ and
- *wdn* ‘to be heavy, to weigh upon’

neither designate types of stone nor objects made of stone because they are verbal lexemes.

35 Most of the objects listed also fulfill another condition, discussed under (4), a rectangular prismatic shape.

- (4) *db-t* ‘brick’ hosts  $\square$  as a classifier. It is arguable whether it is a fuzzy edge member of the category [STONE], similar to stone (when dried or burned) and used for similar purposes (in a similar function) and thus a peripheral member of this category, or because it shares the shape with the hieroglyph having been chosen for the category [STONE].

Theoretically, we could also argue that  $\square$  in *db-t* ‘brick’, *q3h* ‘mud, clay’ and *jfd* ‘rectangle, block’ doesn’t depict a stone block at all but a mud brick and that this is a case of iconic conflation (cf. Lincke & Kutscher, this volume) or, pushing this reasoning still a bit further, that the hieroglyph is not to be interpreted as an object at all but as the two-dimensional representation of a rectangular prism in general, irrespective of its material, or as the geometric depiction of a rectangle. Yet, formally, it is still the same hieroglyph and therefore the same formal category. The same holds true for  $\square$  as classifier in *wd-t* ‘post (for the steering-oar)’, *h3-ht* ‘wooden chest’ and *db-t* ‘box’. One could discuss whether  $\square$  in the two latter cases is to be interpreted as a simplified representation of a box or of a rectangular prism in general. Still, formally it is the hieroglyph O39.

With the exception of the stone names enumerated at first and possibly *db-t* ‘brick’, none of the examples mentioned can be included in a category [STONE] with a taxonomic structure. Nevertheless, they are attested with the same classifier. The relationship between these lexemes and their classifier  $\square$  can be described as:

- meronymic with respect to inherent qualities of objects in (3) (*stuff//object*, e.g. *stone//millstone* etc.),
- metonymic with respect to the meaning of verb lexemes (a stone block typically has the quality of being heavy  $\rightarrow$  semantic role *zero*),<sup>36</sup>
- metonymic with respect to (inherent) qualities of objects (*shape*<sup>37</sup>//*object*, a stone block as a prototypical rectangular prism or  $\square$  as the geometric depiction of a rectangular prism or rectangle).

We can conclude that in order to take the hieroglyph  $\square$  as its classifier the host has to meet at least one of the following conditions:

- BE A KIND OF STONE (taxonomic),
- BE MADE OF STONE (meronymic *stuff//object*),
- BE A RECTANGULAR PRISM/A BLOCK OR BE A RECTANGLE (metonymic *shape//object*),
- DEMAND A PARTICIPANT WITH THE FEATURE OF HEAVINESS (semantic role *zero*).






As we can see from the sum of these assignment conditions, features of  $\square$  that get activated when assigning it to a host exceed the information KIND OF STONE that would be sufficient for a taxonomic category. Other features of the depicted object, presumably a stone block, can be activated or profiled for non-taxonomic category assignment:


- its essence or material (stone),


36 A participant in the semantic role of *zero* is “an entity that merely occurs in some location or exhibits a certain property” (Langacker 2000 [1999]: 29-30). For semantic roles and classifiers on Egyptian verbs, see Kammerzell (2004 and *in print*) and Lincke (2011: chapter II.3).

37 For a short discussion of classifiers that include the SHAPE condition see Kammerzell (2004).

- its rectangular prismatic shape and
- its relative heaviness (quality).


Returning to the example mentioned at the beginning of this section, the complex category marked by  (F27), we can conclude: Being the iconic rendering of a leopard's hide and tail (cf. Goldwasser 2002: 57-61), it was used on lexical elements like *jnm* 'skin', *b3* 'leopard skin', *msk3* 'leather' and *hn-t* 'hide' during the Old and Middle Kingdoms. Later, it appears frequently in designations of various parts of the chariot and other war equipment in a metonymic *stuff/object* relation (like has been demonstrated for  and objects made of stone above). In texts from the New Kingdom, we find  also regularly on expressions for 'dog', 'cat', 'horse', 'mouse', 'lion' – and sometimes even on 'flea', 'scarab', 'scorpion' (cf. Kammerzell 1999). Assuming that these new hosts of the classifier  have become members of the Written Language category because of their metonymic relation (*stuff/object*) with some of the old members acquits us of postulating that all these entities had to be considered to belong to a category "[FUR, LEATHER, GOODS MADE THEREOF, ANIMALS, AND BUGS]". The animate members form a taxonomic sub-category within the category marked by  that is comparable to the taxonomic category of stone shown above under (1) and corresponds to Goldwasser's [QUADRUPED] or [HIDE&TAIL]. Still other designations of animals, for instance *py* 'flea', could be in a metonymic relationship with fur because they live on the skin of animals and human beings (*location//located*). However, one could also argue that this type of creature is a peripheral member of the mentioned taxonomic sub-category with a similar degree of typicality to 'scarab' and 'scorpion'.

Another case of features of the depicted entity being activated is  (G37) as described by Arlette David (2000). This hieroglyph (probably representing a sparrow) is first attested as a logogram for *nds* 'be small' in the sense of 'young' or with diminutive meaning (David 2000: 17-18). David suggests that it be considered a metaphoric relation (David 2000: 21-23), whereas we are inclined to describe it as a metonymic relation, more specifically as the semantic role *zero* (cf. Lincke 2011: 49-50, cf. also Lincke & Kutscher, this volume). Being small is an obvious characteristic of a sparrow (when compared with most other birds of the Egyptian fauna). Thus, the sparrow is a prototypical representative of the semantic role *zero* of the verb 'be small' and for this reason was selected as the real-world prototype of the logogram.

Over time, the lexeme *nds* expanded its meaning towards inferiority in a social hierarchy, perhaps because young age often combines with a lower status in society (David 2000: 39). In the First Intermediate Period,  is first attested as a classifier for *hjn* 'bad things; to be evil'. David suggests that a set of factors triggered this further extension of the category towards bad things and evil ("perturbation"). One possible reason might have been the mode of life of the iconically depicted bird. For people who witnessed a time of serious problems in agricultural production (as it seems to have been the case after the end of the Old Kingdom) the sparrow's role as a field pest made him a negative factor in human life (David 2000: 54-57). Another reason is related to further semantic change of the lexeme *nds* for which the hieroglyph serves as logogram. David (2000: 50-53) cautiously suggests that due to

social changes the term *nds*, as used for a particular social group, might have acquired a negative connotation that was “absorbed” by the hieroglyph itself.

Although we think that in this particular case the sparrow’s habit of living on the products of the farmers would be enough to explain its association with bad behaviour, bad character, and anything bad in general (i.e. David’s first factor), future research should investigate to what extent changes in the meaning of lexemes to which a particular hieroglyph is assigned as a logogram or as a classifier can retroactively affect the meaning of the sign and the structure of the category that it constructs.

Even the [BIRD] category, marked by  as a classifier, is concerned by what has been described in this section. Besides the

- taxonomically structured category grouped around the prototype (and hyperonym) *ʒpd* ‘duck’ > ‘bird’,

there are two other types of assignment of members to this category:

- meronymic with respect to nouns (*member//collection*, e.g. *rzf* ‘fowl and fish [as food]’),
- metonymic with respect to verbs (in semantic roles, e.g. *agent* in *ʕhm* ‘fly’, *undergoer* in *hʒb* ‘fowl, [fish]’).

What remains common to the examples and types of classifier-lexeme relations in (1)-(4) is the fact that they are marked formally by the same hieroglyph and, if we leave aside the possible interpretation of iconic conflation and iconic polysemy, that they are all associated with the same object, a stone block. The result is a category that is formally marked by the same classifier, but is semantically heterogeneous, with members that do not stick to the same rules of assignment and a structure that can only partially be described as taxonomic (i.e. integrating a taxonomic sub-category). It is better to not assume that this type of category is the Written Language reflection of an underlying covert category with a rather homogeneous character as it has been described for the taxonomic categories (Goldwasser 2002). In our opinion, categories as such are not a reflection of mind. They are a result of sign usage. The structure of such a category can however be motivated by universal semiotic principles as discussed above. This type of category is characterized by the following features:

- lexemes with a rather verbal character and lexemes with a rather nominal character can be members of one and the same formal class, thus constituting a complex category,
- plurality of attested lexeme-classifier relations (see above),
- non-taxonomic structure (but can include a taxonomic sub-category).

Being asked how the members come into this type of categories, one may state the following processes:

- by different assignment principles (see above),
- by activating different qualities of the object depicted by the hieroglyph (e.g., stone, rectangular prismatic, heavy) that are associated with a potential new member (see above),
- by chaining (see section below).

Complex category structures that are comparable to the Japanese and the Egyptian cases can also be found in Chinese. Wiebusch (2000: 222) analyses the category development “for several Chinese numeral classifiers, e.g. *gen*:

“Der Nk [Numeralklassifikator, ESL] *gen* ‘Wurzel’ wird z.B. zunächst aufgrund einer “Teil-Ganzes”-Relation für Pflanzen, hauptsächlich Bäume, eingesetzt. Später wurde *gen* – eventuell über die Verwendung für gefällte Bäume oder andere wurzellose Pflanzen – zunehmend auch für längliche, starre Objekte aus Holz eingesetzt. Dadurch bildete sich eine [*sic*] “Form”-Kriterium heraus, d.h. Objekte in der Domäne von *gen* länglich, meistens zylindrisch und starr, also einer hölzernen Wurzel ähnlich. Dieses Kriterium bestimmt heute den Hauptteil der Domäne, während die Verwendung für Bäume nicht mehr möglich ist. Die “Teil-Ganzes”-Relation blieb nur in marginalen Fällen, etwa in dem Gebrauch für “Haare” aktiv.”<sup>38</sup>

In connection with semantic shifts of classifiers like in the case of *gen*, Wiebusch (2000: 218-219) speaks of *multi-criterial* domains, i.e. categories whose members can be attributed on the bases of different assignment rules as we have demonstrated for Egyptian above.

The crucial difference between the Chinese and the Egyptian example is the fact that the original meaning of the Chinese numeral classifier *gen* ‘root’ was lost due to language change. For our Egyptian example, the classifier □, this is not the case. As long as the indigenous Egyptian writing systems were in use the rules of iconic representation within these systems were transparent to their educated users, the scribes. All of the assignment principles described above were thus potentially applicable the whole time in which the classifier system was in place. They were not the result of a diachronic change of the centre of the category as in the Chinese case (from a meronymy-based *part/whole* criterion for plants to a metonymy-based *shape* criterion for long, rigid objects). This observation is in accordance with the significance of the semantic transparency of Egyptian hieroglyphs used as classifiers as discussed in Section 2.1.4. The diachronic shift of a category centre in Egyptian as described by David (2000) and Shalomi-Hen (2006), for instance, corresponds to the mechanisms mentioned in Section 2.1.3. It remains unaffected by what has been said here, as it is independent of the iconic value of the classifier.

The insight gained from taking a prototype approach beyond taxonomies is this: In Egyptian, classification by means of the same hieroglyph is not a reflection of an underlying category that corresponds with a lexical category as marked by a hyperonym. Categories built by Egyptian classifiers do not resemble categories as we find them in encyclopedias either, because the latter are based on Aristotelian categories relying on necessary and sufficient features (checklist model).<sup>39</sup>

38 English translation of the quote:

“The NCL [numeral classifier, ESL] *gen* ‘root’, for instance, was used at first for plants, primarily trees, on the basis of a “part-whole” relationship. Later on, *gen* was – maybe due to its usage for felled trees and other plants without roots – increasingly used for longish, rigid objects of wood. This caused the development of a “form” criterion, i.e. objects in the domain of *gen* [would be] longish, mostly cylindrical and rigid, thus resembling a wooden root. This criterion defines the main part of the domain today while a use for trees is no longer possible. The “part-whole” relation endured only in marginal cases, e.g. in the use for “hair”.”

39 The divergent category structures of encyclopedias (i.e. reference works) and classifier systems have been summarized by Becker (1975: 110-111) as follows: “What is striking is that the same



### 2.2.2.3 Chaining

Chaining is the process in which peripheral members of a category are linked to central members via one or more than one intermediate members without necessarily sharing features with the central member(s) themselves (Lakoff 1987: 95, on the basis of Dixon 1982). The intermediate member, however, shares some features with the central member(s) and other features with the peripheral member. These constitute the links in the chain. In contrast to the already discussed prototype structure, in chaining it is not a necessary condition to share one (or several) features with a central category member (prototype).

A prominent case of chaining has been described by Lakoff (1986 and 1987) on the basis of material from the Australian language Dyirbal with data published by Dixon (1982). Some members that characterize the structure of a Dyrirbal category have become eponymous for Lakoff's famous book *Women, fire and dangerous things* (1987).<sup>40</sup> Dyrirbal has four noun classes.<sup>41</sup> The category marked by the morpheme *balan* is particularly interesting. Based on Dixon (1982), Lakoff (1986: 14) lists the following members of this category:

*women, bandicoots, dogs, platypuses, echidna, some snakes, some fishes, most birds, fireflies, scorpions, crickets, the hairy mary grub, anything connected with water or fire, sun and stars, shields, some spears, some trees, etc.*

He names three principles that can help to understand the chaining process and the assignment mechanisms for this only seemingly random category:

- (1) "The Domain of Experience Principle: If there is a basic domain of experience associated with A, then it is natural for entities in that domain to be in the same category as A" (Lakoff 1986: 15, quoting Dixon 1982: 179).
- (2) the "Myth-and-Belief Principle: If some noun has characteristic X (on the basis of which its class membership is expected to be decided) but is, through belief or

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semantic polarities do not appear in both systems. Encyclopedia sets, for instance, do not classify things on the basis of shape or size. Numerative classifiers, on the other hand, do distinguish shape and relative size, but they do not give particular relevance to sex or color, which are important in the semantics of the sets. Thus, the two systems of classification – encyclopedic sets and numerative classifiers – are to some extent complementary in the structures they establish."

40 Dyrirbal is a language from the Pama-Nyugan language family spoken in Northern Queensland, Australia. Its system of classifying morphemes was only described when the language was already almost extinct with just a small number of speakers left, who were incidentally also greatly exposed to other languages.

A recent account of the noun class system of Dyrirbal suggests different motivations for class assignment. Plaster & Polinsky (2007, 2010) argue that Dyrirbal noun class assignment is – for the sake of learnability and because of its diachronic development from an earlier classifier system – not based on the complex cultural concepts and principles as established by Dixon (1982) and used by Lakoff (1986, 1987). Instead, noun class membership is rather due to some core semantic principles (male human, default animate = class I, female human = class II, consumable non-beverage items without meat = class III, default inanimate = class IV) in combination with some folkloric associations à la Dixon and Lakoff or morphophonemic features and to some remnants of the former classifier system that have persisted because of their frequency (Plaster & Polinsky 2007: 19-22). Although we agree with Plaster & Polinsky, Lakoff's account of the Dyrirbal noun class system can still serve to illustrate chaining processes even if he may be mistaken for the Dyrirbal case.

41 According to Grinevald's typology (Grinevald 2000: 53); Aikhenvald (2004: 1035) even lists it as a gender system.

myth, connected with characteristic Y, then generally it will belong to the class corresponding to Y and not that corresponding to X” (Lakoff 1986: 15-16, based on Dixon 1982: 180-183).

- (3) the “Important Property Principle: If a subset of nouns has some particular important property that the rest of the set do not have, then the members of the subset may be assigned to a different class from the rest of the set to “mark” this property; the important property is most often ‘harmfulness’” (Lakoff 1986: 16, quoting Dixon 1982: 179).

The first principle (1) explains why *light* and *stars* are in the same category (the *balan* category) with *sun*: they belong to the same domain of experience (Lakoff 1986: 15). Principle (2) helps to understand why *sun* is in the *balan* category. The central members of this category are women.<sup>42</sup> The sun is believed to be the wife of the moon and therefore to be a woman. Consequently, according to principle (1) it is in the same category with other women. Other elements from the same domain of experience like *sun* come in as a consequence too: *fire*. And objects linked to *fire* are also part of this category: *hot coals*, *matches* (Lakoff 1986: 21). The chain keeps growing:

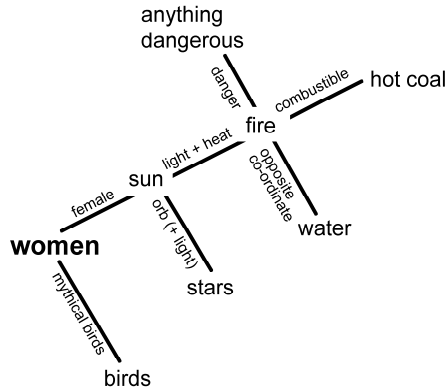


Figure 4a. Chaining process in the *balan* noun class of Dyrbal (based on Lakoff 1986 and Dixon 1982)

Thus, members can share one or several features with a neighbouring member without sharing any feature with one of the central members. If one asks whether a chaining process as such can be found in Egyptian categories as marked by hieroglyphic classifiers, we have to state: only to a small extent, if at all. This is a list of lemmata that are marked by the classifier 𓆎 (P5) as collected by Schwarz (2005: 74-75)<sup>43</sup>, roughly sorted according to semantic fields:

42 Lakoff does not explain explicitly why women are central members of this category. However, the social environment is crucial to human categorization and the opposition of the sexes is very basic to categorization in many languages (Lakoff 1986: 21). If a distinction on the basis of the sex (men are in category I, women are in category II) is to be found in Dyrbal one can assume that the respective words for men and women are central members of their respective categories. Natural sex opposition is a very basic and widespread and yet semantically transparent feature in categorization, even in gender and noun class system.

43 The data was collected from the *DZA* before it was possible to search for standard spellings in the *TLA* (Schwarz 2005: 21-23). Therefore, it differs from the results that can be obtained by searching

## wind:

*jʒb-j, jʒb-tj* ‘east wind’  
*jwnw* ‘support (wind as support of the sky)’  
*jmn-j, jmn-tj* ‘west wind’  
*jgb* ‘air, wind’  
*wḥʒ* ‘blustering (of a storm)’  
*bʒ n(-j)- Šw* ‘Soul of Shu (name of a wind)’  
*mʒ<sup>c</sup>-w* ‘(tail) wind’  
*mḥw-t, mḥ-tj* ‘north wind’  
*rsw* ‘south wind’  
*ḥfḥfj* ‘to blow (or similar)’  
*ḥʒḥʒ* (OE) ‘to winnow’,  
*ḥrḥr* (LE) ‘to blow away, to overturn’  
*swḥ* ‘wind, breath’  
*swt* ‘breeze’  
*sby-t* ‘head wind’  
*qrj, qrr* ‘storm, storm cloud’  
*tʒw* ‘air, wind’  
*q<sup>c</sup>* ‘storm wind, winds of the body’, ‘to be stormy, to break wind’,  
*q<sup>c</sup> n(.j)- mdy* ‘crosstalk’

## breath:

*jm-t* ‘choking?’  
*jtmw* ‘breathlessness’, name of a demon who causes a disease of the nose  
*nʒw, njw* ‘breath’; *ntjʒ* ‘breath?’ (for *nʒw*?)  
*nf* ‘breath, wind’, *nff* ‘to exhale’, *nfw* ‘skipper’, *nf-t* disease of cattle, *s:nf* ‘to let breathe’, ‘to empty, to unload’  
*snb* ‘breath’  
*snsn* ‘breath’, ‘to smell, to inhale’, *ssn* ‘to smell, to breathe’

## coolness:

*ḥsj* ‘to feel cold’, *ḥsy* ‘freeze, coldness’  
*qb, qbb* ‘(cool) wind’, *s:qbb* ‘to cool, to refresh’

## dust and dryness:

*ḥm* ‘to be(come) dry’, *ḥmw* ‘dust’

## other:

*nšš-w* pathological symptom on the temple (tinnitus?)

Besides the iconic meaning of the hieroglyph (*sail*), the attested lexeme-classifier pairs suggest four major fields that can be marked by  $\overline{\text{𓂏}}$ : *wind* (metonymic relation), *breath* (chaining), *coolness* (chaining), and *dust* (chaining). The relation between *wind* and *sail* may be described as *force//tool* (metonymy). The relation between *wind* and *breath* is also plausible, both being kinds of airflow (taxonomic category). A direct connection between *sail* and *breath* (or *coolness* or *dust*), however, cannot easily be established. Schwarz (2005: 74) speaks of a secondary connection (“sekundärer Bezug”) between *wind* and nouns like *qrj* ‘storm cloud’ or *ḥsy* ‘freeze’. If we base our analysis on an iconic interpretation of  $\overline{\text{𓂏}}$  (= *sail*) we have a case of chaining here where *wind* is the linking member with whom three other subcategories share features that they don’t share with the object depicted by the classifier:

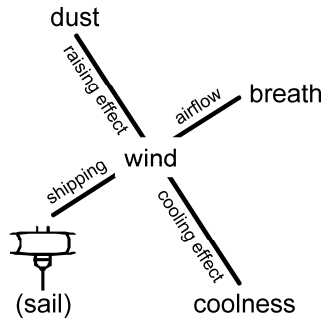


Figure 4b. Chaining process of the category marked by  $\overline{\text{𓂏}}$

the TLA for hieroglyphic (and transliterated hieratic) standard spellings. Entries that are only attested in the Graeco-Roman Period have been ignored.

It is probable that wind has to be considered the centre of the category (for classifier meaning as shifted by the category structure, cf. Section 2.1.3).

### 3 The classifier and the meaning of its hosts or: What do classifiers classify?

#### 3.1 Noun vs. referent classification in linguistic studies

The problem of what exactly the classifying element classifies, the noun (“word”) or its referent, has been widely discussed in the literature on classification systems in the World’s languages, cf.:

“However, besides all these<sup>44</sup> functions the basic function of classifiers is to classify. But what do classifiers actually classify – extralinguistic referents (i.e. beings, objects, states, actions,<sup>45</sup> etc.) or the intralinguistic category ‘noun’?” (Senft 2000: 27)

In this section we will argue that scrutinizing this question is a key to understanding the Egyptian classifier system. It will enable us to subdivide classification in Written Egyptian into different types. Furthermore, we will demonstrate that most of the doubts brought forward by some authors with respect to identifying the particular Egyptian sign function class as classifiers can be dispelled when considering the reference and discourse mechanisms in other classifier-using languages.

Authors discussing the question of what classifiers refer to – lexical elements or their extralinguistic “real world” referents – agree that the tendency to classify a linguistic element (often a noun) is stronger in case of gender and noun class systems than in classifier systems (Aikhenvald 2000: 320, Matsumoto 1993: 669, cf. also Senft 2000). The degree of grammaticalization and hence conventionalization of the assignment of classifying element and lexical element in general is also higher in gender and noun class systems than in classifier systems. This is why gender and noun class assignment is usually less sensitive to context than classifier assignment (however, context-sensitivity is not excluded, as we will see later).

On the other hand, researchers disagree about the extent to which classifiers refer to referents instead of lexical elements, cf.:

“Sometimes classifiers can be used according to a temporarily discourse-relevant property, ... In this case, they may be said to classify referents. However, classifiers typically do not directly reflect properties of referents: to the extent that the association with a noun becomes conventional and fixed ..., a classifier is used with a given noun irrespective of actual properties of its referent.” (Seifart 2010: 725)

With this slightly anti-referent point of view, Seifart is on one extreme end of what seems to be a continuum between approaches propagating or denying the referent

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44 Functions mentioned by Senft (2000: 26) comprise: grouping, subcategorizing, classifying, reference tracking and others as quoted from a talk by Adams, Becker & Cockling (1975): “Besides their function in numeral noun phrases classifiers in various languages function as nominal substitutes, nominalizers of words in other form classes, markers of definiteness, relativizers, markers of possession, and as vocatives; serve to disambiguate sentences; establish coherence in discourse and regularly mark registers and styles in language.”

45 McGregor (2000: 86) argues that verb classifiers in Gooniyandi classify “referents of verb tokens”. The question of referent classification is, therefore, not limited to the nominal sphere.

sensitivity of classifiers. Other papers argue in favour of referent classification instead of a rather fixed noun-classifier relation (cf. Berlin 1968, Aikhenvald 2000: 319-320, Allan 1977: 295-296, Löbel 1999: 298-300 and 311-315, Matsmuoto 1993: 693-695, Wilkins 2000: 177-178).

### 3.2 Referent classification in classifier-using languages

One of the objections put forward by some Egyptologists against the adequateness of describing the sign function class traditionally named “determinatives” as classifiers takes as a point of departure their extra-linguistic functions:

“Most significantly, the application of determinatives often seems to go beyond any simply classificatory function, and one struggles to find analogous phenomena in other languages.” (McDonald 2004a: 238)

We definitely disagree with this point of view. Even though McDonald gives no further explication of her idea of a “simply classificatory function”, we are convinced that there are indeed “analogous phenomena” in other classifier systems which behave exactly like Egyptian classifiers in those examples which have been used to deny the existence of classifiers in Egyptian. The case put forward by Loprieno (2003) may be taken as a starting point for discussing context-sensitivity. We speak of context-sensitivity (or: discourse-sensitivity) of a classifier if its choice is obviously motivated by pragmatic factors. This means that the classifier is not predictable by the intension of its host alone and cannot be justified by the semantic frame of the lexical element. Instead, it is only transparent when taking into consideration the context in which it is used (and knowing in particular the extralinguistic referent of the host).

Stressing the alleged high degree of variation and the assumed non-obligatoriness of classifiers in Egyptian (both factors that still call for a comprehensive investigation), critics of the classifier approach for Egyptian imply that the assignment of a classifier to its host would have to be as rigid and conventionalized as, e.g., gender in Indo-European gender systems. This is, however, not the case at all. We would like to draw attention to a number of examples from various languages in order to illustrate that the classifier-host relation is not necessarily invariable. In his investigation of Burmese, a language that is considered prototypical among classifier-using languages, Becker (1975: 113) provides clear counter-evidence against any approach insisting on fixed classifier-noun assignment (the word order in the examples is noun – numeral – CLF):

- |     |              |  |
|-----|--------------|--|
| (4) | mjiʔ tə jaʔ  | ‘river one place’ (e.g., as a destination for a picnic)                  |
|     | mjiʔ tə tən  | ‘river one line’ (e.g., on a map)  |
|     | mjiʔ tə mwa  | ‘river one section’ (e.g., as a fishing area)                            |
|     | mjiʔ tə sɪn  | ‘river one distant arc’ (e.g., as a path to the sea)                     |
|     | mjiʔ tə θwɛ  | ‘river one connection’ (e.g., tying two villages)                        |
|     | mjiʔ tə pɑ   | ‘river one sacred object’ (e.g., in mythology)                           |
|     | mjiʔ tə kʰy  | ‘river one conceptual unit’ (e.g., in a discussion of rivers in general) |
|     | mjiʔ tə mjiʔ | ‘river one river’ (the unmarked case)                                    |

In Vietnamese, another language that is known for its numeral classifier system, the noun *bạn* ‘colleague’ can be classified in at least four different ways (Löbel 1996: 174, Examples 7.16b-c, e-f, word order: numeral – CLF – noun):

- (5) hai **người** bạn ‘two friends’ (neutral)  
 hai **ông** bạn ‘two friends’ (older)  
 hai **đứa** bạn ‘two friends’ (young, equal age)  
 hai **thằng** bạn ‘two friends, buddies’ (equal age)

Matsumoto (1993) has demonstrated with experimental data from Japanese, a language employing a numeral classifier system, that the acceptability of a classifier may depend on characteristics of the referent of its host. Native speakers were shown pictures of buildings of different sizes and purposes and asked whether they would accept the use of a certain classifier. The results clearly speak in favour of referent-sensitivity of Japanese numeral classifiers. For instance, the acceptability of the classifier *-ken*, used for certain types of buildings, is significantly higher for *house* or *post office* the more the actually depicted *house* or *post office* (i.e. the referents of the hosts) resembles the size of a traditional Japanese family home (Matsumoto 1993: 681-684 and 694). Another classifier for buildings, *-mune*, can only be used if the speaker refers to the physical aspect of the building. It is unacceptable if the building referred to is, e.g., a goal of a motion event (Matsumoto 1993: 685, Examples 7a-b):

- (6a) Kinjo no ie ga huta-**mune** mizu ni tsukatta  
 neighborhood GEN house NOM two-CLF water DAT soaked  
 ‘Two houses in the neighborhood were flooded.’
- (b) Kare wa Kinjo no ie \*huta-**mune**-ni yotta  
 he TOP neighborhood GEN house \*two-CLF-LOC dropped\_in  
 ‘He dropped in at two houses in the neighborhood.’




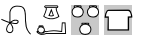
Example (6a-b) documents that the actual referent of a classifier’s host need not even change but that the choice of a particular classifier may be determined by different aspects of one and the same referent in accordance with features that are relevant in the actual discourse. This is obviously a clear case of co(n)text-sensitivity. This point is also stressed by Bisang (1999), who makes a case for reconsidering the distinction between “temporary classification” (which corresponds to what we call referent sensitivity here) and “inherent classification” where the classifiers “refer to different properties inherent to that particular concept which the speaker wants to communicate to the hearer” (Bisang 1999: 140). Bisang explicitly refers to the examples of possible variation in the classification of Burmese *mjiɹ* ‘river’ that were cited above. Thus, there seems to be a distinction between marking a “real world” referent and profiling inherent properties of possible referents that are salient (for whatever reason, syntactic or otherwise) in discourse. The line between these two options, however, is seemingly blurred in some cases. One could argue, for instance, whether it is an inherent property of the concept of river to be conceptualized like a line on a map, i.e. that being represented as a line on a map is part of the intension of the noun *mjiɹ* ‘river’, or whether this is genuine referent classification in the sense that the referent of the noun

*mjiz* ‘river’ in this case is a line on a map and thus classified as such. However, there is no doubt that classifiers may not only be assigned to abstract linguistic elements or entries in the mental lexicon but that the actual use and the context sometimes play a role when it comes to choosing the classifier. This is what we will call *context-sensitivity* (cf. Lincke 2011 “Kontextabhängigkeit”) or, following Seifart’s terminology (2010: 720), *discourse-sensitivity* (we will use both terms synonymically). In the following section, we will discuss this matter with Egyptian material. There seems to be a number of factors, mostly pragmatic and extra-linguistic, that determine the choice of a context-sensitive classifier. We will come back to them in Section 4.

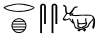


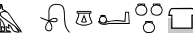
### 3.3 Lexeme and referent classification in Egyptian

#### 3.3.1 Lexeme classification

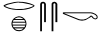



In a study on the classifier system of the Pyramid Texts (Lincke 2011, for an English summary see Lincke *in print*), the author argued that there are two different levels of classifier assignment in Egyptian. One type is called *lexeme classification* or level-1 classification. It is characterized by a choice of the classifier independent of context (discourse) and lexeme realization. This means that the classifier is assigned to a lexical element (lexeme, root) according to the semantic frame of the lexeme in question. Therefore, it is this type of classification that is in close relation with lexical semantics although we have seen in Section 2.2.2.2 that it does not reveal an Ancient Egyptian concept of the lexicon. Every realization of a given lexeme can take a classifier as such, notwithstanding its appearance within a particular part of speech in actual discourse. This analysis is based on the observation that classifier assignment in certain cases cannot be traced back to conditions of the context (discourse). One of these cases is the attestation of different classifiers in different attestations of the same text passage. We illustrate this case with a number of examples of verb classifiers from the Pyramid Texts:

- (7a)  *rhs(~s)* slaughter~FUT.PASS  
 *sbn-t-hm-t* suckling\_cow-F-female- for-  
 F-CLF.PL  
 *n- Ttj* Taataj-BSL  
 *w3g* Warag\_feast-CLF-[CLF]

(Pyr. 716c<sup>T</sup>, after Sethe 1908-10)

- (b)  *rhs~s-* slaughter~FUT.PASS-  
 CLF  
 *sbn-hm-t-* suckling\_cow-female-F-(for-  
 CLF.PL  
 *(n- Pjpij)* Pijaapij-BSL  
 *m- w3g* in- Warag\_feast-CLF-CLF

(Pyr. 716c<sup>P</sup>, P/A/E 18 = 209, after Pierre-Croisiau 2001)

- (c)  *rhs~s-* slaughter~FUT.PASS-  
 CLF  
 *sb[n-t]* suckling\_cow-PL.F  
 *n-] Pjpij-* for- Pijaapij-BSL  
 *[... ]* in- Warag\_feast

(Pyr. 716c<sup>P</sup>, P/A/E 5 = 222, after Pierre-Croisiau 2001)

‘(...) and nursing cows<sup>46</sup> will be slaughtered (for Taataj/Pijaapij) during the Warag festival’

- (8a) *hr-* *hm-psd-t-* *m-* *hp-* *jfn-*  
 fall.FUT-CLF pelican-Ennead-F-CLF in- Nile-CLF topple.STAT-CLF  
 (Pyr. 435a<sup>W</sup>, after Sethe 1908-10)
- (b) *hr-* *hm-psd-t-* *m-* *hp-* *jfn-*  
 fall.FUT-CLF pelican-Ennead-F-CLF in- Nile-CLF topple.STAT-CLF  
 (Pyr. 435a<sup>T</sup>, after Sethe 1908-10)
- (c) *hr* *hm-psd-t-* *m-* *hp-* *jfn-*  
 fall.FUT pelican-Ennead-F-CLF in- Nile-CLF topple.STAT-CLF  
 (Pyr. 435a<sup>P</sup>, P/A/E 28, after Pierre-Croisiau 2001)

‘Having toppled back, the pelican of the Ennead<sup>47</sup> will fall into the Nile.  
 (Having fallen asleep, the monster will topple back.)’

- (9a) *hms-y-f* *rf* *hr-* *s-t* *wr-t* *jjr-t* *ntr-(w)*  
 sit-CLF-FUT-3S.M PTCL on- seat-F big-F make:REL-F god-PL  
 (Pyr. 1154b<sup>P</sup>, P/C med/W 41-42 after Pierre-Croisiau 2001, completed with Sethe 1908-10)
- (b) *hms-* *rf* *Pjpij-* *Nji-k3-Rc-* *hr-* *s-t* *wr-t* *jjr-t* *ntr-(w)*  
 sit.FUT-CLF PTCL Pijaapij-BSL Nafilkurliiduw-BSL on- seat-F big-F make:REL-F god-PL  
 (Pyr. 1154b<sup>N</sup>, after Sethe 1908-10)

‘... so that Isis can conceive him/Pijaapij Nafilkurliiduw and that Nephthys can beget him/Pijaapij Nafilkurliiduw) so that he/Pijaapij Nafilkurliiduw will sit on the great throne that the gods have made’

Firstly, Examples (7)-(9) show that within parallel versions of one text different classifiers can occur on one and the same verb – cf., e.g., *rhs* ‘slaughter’ (ex. 7), *jfn* ‘topple back’ (ex. 8) and *hmsj* ‘sit (down)’ (ex. 9). Unless we assume that text variants

46 Whereas Pyr. 716c<sup>T</sup> makes use of a compound *sbn-t-hm-t* ‘female nursing cow’, one of the versions of Pijaapij I shows only *sbn-t* ‘nursing cow’. This contrast between two formally different but intensionally as well as extensionally identical expressions is similar to Modern High German *Wal* vs. *Walfisch*.

47 The noun *hm* is analyzed as the masculine counterpart of *hmnw-t* ‘pelican’ which already underwent the phonetic change /nw/ > /m/ (cf. Peust 1999: 163-165). For another case of *psd-t* ‘Ennead’ classified by means of see Pyr. 717a<sup>T</sup>. Besides *hm-psd-t* ‘pelican of the Ennead’ there seems to exist an extensionally identical expression *psd-tj* ‘the One belonging to the Ennead’ (Pyr. 278b<sup>W</sup>).





as such have been necessarily interpreted differently (for which there is no evidence), this is a case of cotext-independent classifier variation.<sup>48</sup>







Secondly, there is no evidence that classifiers affixed to Egyptian verbs have been determined by other syntactic constituents such as subject, direct object, complements that are (more or less) part of the valency of the verb (for a detailed discussion of the matter see Lincke 2011: 81-90). Since the selection of a classifier is dependent on nominal arguments or complements for *verbal classifiers* (Grinevald 2000: 67, 2004: 1022), it is clear that classifiers suffixed to verbs in Egyptian *cannot* be identified as *verbal classifiers* but must be seen as being *verb classifiers* (Lincke 2011: 81-90; cf. also Section 1.3). Therefore, given that the constituents of a sentence play no role in the choice of a verb classifier, we can rule out discourse-sensitivity as a factor.


Still another environment of discourse independent classification occurs with word-formations that keep the classifier(s) of their root. We consider classifiers suffixed to derived nouns to pertain to the root (source of derivation) rather than by the word-form (derived noun) if there is no way to describe their relation to their host by means of the classifier-noun relations established for genuine nouns (for these relations cf. Goldwasser 2002, Kammerzell 2004 and Lincke 2011: 25-42) and if the same classifier is attested with other formations on the basis of the same root (lexeme).<sup>49</sup>


(10)  in the participle of *hnj* ‘row’:

 *hnn-w* ‘(Wanjash sits with) the ones who row (the Sun God)’ (Pyr. 274b<sup>W</sup>)

(11)  in formations on the basis of *sm3* ‘slaughter’:

- (a)  (Pyr. 626b<sup>T</sup>)  
 (b)  *sm<sup>3</sup>-wr* ‘Great Wild-Bull’ (Pyr. 625b<sup>P</sup>)  
 (c)  (Pyr. 625b<sup>N</sup>)  
 (d)  (Pyr. 388c<sup>W</sup>)  
 (e)  *sm<sup>3</sup>-t-wr-t* ‘Great Wild-Cow’ (Pyr. 388c<sup>P</sup>)  
 (f)  (Pyr. 388c<sup>N</sup>)

(12)  in derivations of *zwr* ‘to drink’:

 *mzwr* ‘drinking place’ (Pyr. 930c<sup>P,M</sup>)

Classifiers of the type presented in Examples (10-12) are insensitive to the cotexts in which they are used. They can in principle be assigned to every realization of the verbal root underlying the actual formation including all types of word-forms and derivations of this root. This is why we have suggested calling them *lexeme classifiers* (Lincke 2011: 99-105) or level-1 classifier. Lexeme classifiers are attributed to roots, not to particular word-forms (see above). As lexemes have intensions that are de-

48 Of course, other factors have to be taken into consideration, e.g. hieroglyphs depicting thrones are used as classifiers for *hmsj* ‘sit (down)’ only in the pyramids of Pijaapij I and Malnjliidw, a.k.a. Merenre, (with other lexemes, namely *hndw* ‘throne’, they are also used in the pyramids of Pijaapij II and Queen Najat, a.k.a. Neith).

49 In Section 3.3.3, we will describe the classifiers of Ex. (11) that are not lexeme classifiers.

pendent on their respective semantic frames, the semantic frame provides possible lexeme classifiers for a particular lexeme (with respect to their role in Egyptian classification see Lincke 2011: 62-69).

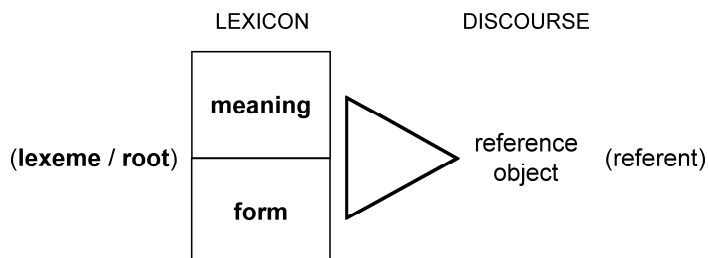


Figure 5a. The position of lexeme classifiers in the semiotic triangle



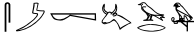
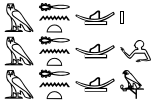




Lexemes in Egyptian usually show a tendency to have either a predominantly verbal meaning (encoding actions, events, qualities or states) or a more nominal meaning (encoding, e.g., basic designations of concrete or abstract objects and living beings).<sup>50</sup> Classifiers are assigned to lexemes according to the semiotic and semantic principles that are applicable for verbal and nominal concepts. As demonstrated above for classifiers of verbal lexemes, *lexeme classifiers* can be preserved in word-forms that belong to another part of speech than the basic lexeme (nouns and participles based on verbal lexemes in our examples, for more examples from the Pyramid Texts see Example 13 and Lincke 2011: 100-101).

The overwhelming majority of verb classifiers are hosted by lexemes. For a small number of examples of conflation of context-sensitivity and lexeme classification from the Pyramid Texts see Lincke (2011: 96-99 and 107-110).

### 3.3.2 Referent classification

In addition to lexeme classification in Egyptian, there is ample evidence for *referent classification*, also called level-2 classification (Lincke 2011). This other type of classifier-host relation has already been demonstrated with some examples from several other classifier-using languages in the introductory part of this section. In contrast to what has been called *lexeme classification* in the preceding paragraph (cf. also Figure 5a), there is a possibility to choose a classifier according to characteristics of the referent of its host in discourse rather than according to inherent properties of a typical possible referent. These classifiers cannot be predicted without taking into account the textual context or extra-linguistic context because it supplies the necessary information about the respective referent. Thus, classifiers of this type are distinctive in that they are sensitive to discourse and context. A number of examples (from the Pyramid Texts) is given below (for other examples see Lincke 2011: 100-101):


<sup>50</sup> This statement is, of course, oversimplified in many ways, as a lot of even basic appellativa of objects and creatures as well as basic verbs are derived from the other class of lexeme.

(13a)		<i>nb</i> 'Lord' <sup>51</sup>	noun (primary)	(Pyr. 966a <sup>M</sup> ) (Pyr. 966a <sup>N</sup> )
(b)		<i>ms-w-Nw-t</i> '(Nut's) children'	noun (lexical- ized participle)	(Pyr. 1213c <sup>M</sup> )
(c)		<i>sm3-wr</i> 'Great Wild-Bull'	noun + attribute	(Pyr. 625b <sup>N</sup> )
(d)		<i>mhn-t(-j)</i> 'Ferryman'	noun (nisba)	(Pyr. 946a <sup>P</sup> ) (Pyr. 946a <sup>M</sup> ) (Pyr. 946a <sup>N</sup> )
(e)		<i>dw3-t-w</i> 'those (stars) of the Duat' <sup>52</sup>	noun (nisba)	(Pyr. 953a <sup>P,M,N</sup> )
(f)		<i>m3-h3-f</i> 'Sees-behind-him'	participle + pre- positional phrase	(Pyr. 1222b <sup>M</sup> )
(g)		<i>jr-t-hnm(w)</i> 'Khnum-made boat' <sup>53</sup>	relative form	(Pyr. 1228b <sup>P</sup> ) (Pyr. 1228b <sup>M,N</sup> )
(h)		<i>hr-f-h3-f</i> 'His-face-is-his-occiput'	nominalized clause	(Pyr. 999a <sup>N</sup> )

To the best of our knowledge, Berlin & Romney (1964) and Berlin (1968) were the first to describe classifiers of this type in some detail for the Mayan language Tzeltal (Tenejapa dialect) by contrasting it with lexeme classifiers. Berlin asked Tzeltal speakers “What word [i.e. which numeral classifier, ESL&FK] do we use when we want to count \_\_\_\_ (something) as it appears in its natural form on earth?” (Berlin 1968: 174). The result of his elicitations was a list of nine numeral classifiers that Berlin calls *inherent state classifiers*, which correspond to our *lexeme classifiers*. These classifiers are opposed to another set of 148 classifiers (Berlin 1968: 172) that Berlin calls *temporary state classifiers*, corresponding to our *referent classifiers*. After having collected a large set of classifier-noun combinations Berlin stated that a particular noun could be used with several classifiers (e.g. the Spanish loan word *laso* ‘rope’ with at least 12 different classifiers, Berlin 1968: 31). On the basis of this preliminary result, Berlin tried to elicit subsets of classifiers that are similar with respect to their distribution.

“In fact, when I pushed well-trained informants to give verbal descriptions as to why such a referent [sic] of a noun was classifier “A” and not classifier “B”, I received highly variable responses with low information content.” (Berlin 1968: 35)

Berlin notes further that his informants often failed to verbally discriminate the semantic difference between two classifiers used with the same set of nouns but that

51 Pyr. 966a<sup>P</sup>: *Nb-p-t* ‘Lord of the sky’ without the classifier .

52 cf. Allen (2005: 129, P326b): ‘stars of the Duat’.

53 Allen (2005: 162, P470).

they “would readily begin manipulation of exemplary objects such that they could be classified by the appropriate classifiers”.

“These demonstrations of the distinctions that hold between classifiers in a set were accomplished primarily, therefore, by examining the actual physical objects or events which were characterized by specific classifiers.” (Berlin 1968: 35)

Clearly, these classifiers were not assigned to an abstract noun but in accordance with the “real world” referent and its actual yet temporary configurational properties. When trying to gloss classifiers of this type Berlin had to be very specific about configurational details, e.g. “individual wraps of slender-flexible objects in sequential spiral around some long-non-flexible objects, as a piece of wood” (Berlin 1968: 39, plate 1).<sup>54</sup> As a result, Berlin preferred to take photographs of the appropriate configuration of physical objects (the referents of the counted nouns) that a classifier required instead of giving verbal descriptions that even native speakers were unable to produce.

Tzeltal is a good example of a language that preferably classifies according to temporary configurational properties of referents (148 classifiers) rather than according to inherent properties of a typical referent (9 classifiers).<sup>55</sup>

The dichotomy of classifying either lexeme or referent has also been discussed in some detail for Vietnamese numeral classifiers by Bisang (1999) and by Löbel (1999). Both use Berlin’s terminology of inherent versus temporary classification. Löbel (1999: 313-314) ends up with a conclusion similar to that made by Lincke (2011)<sup>56</sup>: Lexeme classifiers and referent classifiers can be positioned at different angles of the semiotic triangle: While inherent (in our terminology *lexeme*) classifiers are assigned to a lexeme according to inherent features (i.e. features that typical referents share) the temporary (referent) classifier is assigned according to features of an object or entity that temporarily, in the context of the actual utterance, is the referent of a word-form (for a more detailed discussion on Egyptian, cf. Lincke 2011: 99-105). Therefore, the latter is assigned to a word-form only temporarily.

Figure 5b schematically represents the connections between classifier and host for the referent classifier. In referent classification, the object or entity that serves as referent in the discourse determines the classifier. Within the semiotic triangle, the referent classifier is thus situated on the right corner.

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54 The obsession of Tzeltal with highly specific information on configuration, position and stance of objects is not limited to classifiers and the nominal domain but can also be found in the verbal domain with a large set of very specific (dis)positional verbs (Brown 2006). The salience of configuration for positional verbs and numeral classifiers in Tzeltal is probably, according to Berlin & Romney (1964: 95), because the majority of classifiers developed from transitive and (dis)positional verb roots.

55 The former type of numeral classifiers has been called *mensural classifiers* by Grinevald (2004: 1020), the latter *sortal classifiers*.

56 Löbel’s paper had not yet come to Lincke’s knowledge when describing the two types of classifier-host relationships in that publication.

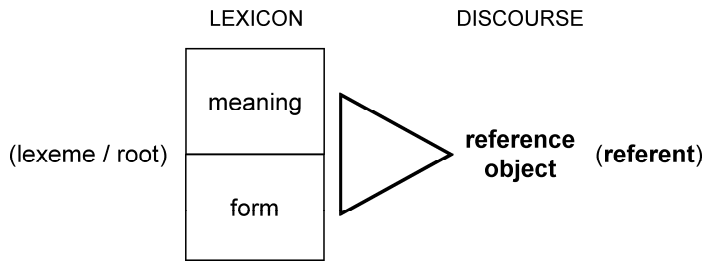


Figure 5b. The position of referent classifiers in the semiotic triangle

In contrast to this, lexeme classification (Figure 5a) is independent of the object or entity that corresponds to the referent in the actual discourse. It is based on the typical features inherent to the meaning of a lexeme (based on prototypical and not on actual referents!) and selected from its associated semantic frame. It is assigned to the linguistic form of the lexeme (root) and therefore operates in the realm of the left side of the semiotic triangle.

Table 4 lists the main characteristics of lexeme classifiers and referent classifiers:

	lexeme classification	referent classification
other designations	inherent, level-1, intensional classifier	temporary, level-2, phrase, extensional classifier
assigned to		
– semiotic entity	lexeme	referent
– part of speech	word-forms on the basis of the lexeme	nominal phrases (genuine and derived nouns, bare nouns or nouns with attributes, all kinds of phrases whether nominal, verbal or adverbial in nature that are used like nouns/nominalized)
typical host	verbs and nouns	proper names
determined by	semantic frame of the lexeme	features of the actual object acting as referent in discourse
cotext and/or context required for assignment	–	<b>X</b>
inherent lexical properties	<b>X</b>	–
referent properties	–	<b>X</b>
semantic redundancy	<b>X</b>	–
position within a token	root-final or word-form-final	phrase-final, head-final or after every lexical element of the phrase; after the lexeme classifier(s) if any

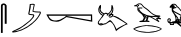




	lexeme classification	referent classification
obligatoriness (tendency)	increasing over time (from Old to New Kingdom); can be dropped before referent classifier	to be explored <sup>57</sup>




Table 4. Features of lexeme and referent classifiers in Egyptian


### 3.3.3 Lexical classification of word-forms and phrases

In Spoken Language, classifier-host relations tend to become conventionalized when used regularly and maybe also when salient for some reason (like when of cultural or social importance?). Seifart (2010: 725) says that

“... it is important to note that the classified concepts may reside not solely in the semantics of nouns, but that they may be the result of a conventionalized combination of noun and classifier semantics [e.g. a noun stem with the meaning ‘banana substance’ and a classifier with the meaning ‘oblong’ resulting in a noun denoting ‘banana (fruit)’].”

It is very probable that numerous classifier-host combinations in Egyptian can be compared to this type of conventionalized classifier-host relations. The Egyptian case is, however, not completely parallel to what Seifart describes. We will discuss this question with the help of an example from the Pyramid Texts that has been mentioned above:  *sm<sup>3</sup>-wr* ‘Great Wild-Bull’ (Pyr. 625b<sup>N</sup>). This phrasal designation of a divine being is attested with up to three classifiers: ,  and .  is the *lexeme classifier* of the root *sm<sup>3</sup>* ‘slaughter’, depicting a typical participant of the action of slaughtering, namely a knife, in the semantic role of *instrument* (for semantic role relations in the Egyptian classifier system, cf. Kammerzell 2004 and Lincke 2011). The two other classifiers cannot be attributed to the root *sm<sup>3</sup>*. Our analysis of this case of multiple classification is presented in Figure 6. The schema is divided into three blocks, each of which gives the lexical and grammatical meaning in the centre column and the corresponding forms of Spoken Language and Written Language in the left column and in the right column respectively.

The uppermost block represents the classifier-host relations of an active participle *sm<sup>3</sup>* ‘the one who slaughters/kills’, i.e. ‘killer’, from the root. , the lexeme classifier of the root, is preserved (but could also be dropped) while a second classifier can be assigned to the participle (word-form) when it is used in discourse. If the participle refers to a bull who shall be designated as ‘killer’, this classifier will be a hieroglyph depicting a bull or a bull’s head: . In this case,  is a *referent classifier*.

57 In the Pyramid Texts of Malniliiduw and Pijaapij II, for instance, the classifier for gods,  (G7) is rarely omitted in designations of divine beings. In the pyramids of their predecessors, by contrast, such a usage is less common. As for the categorization of gods in the Pyramid Texts in general, cf. Shalomi-Hen (2006: 139-158).

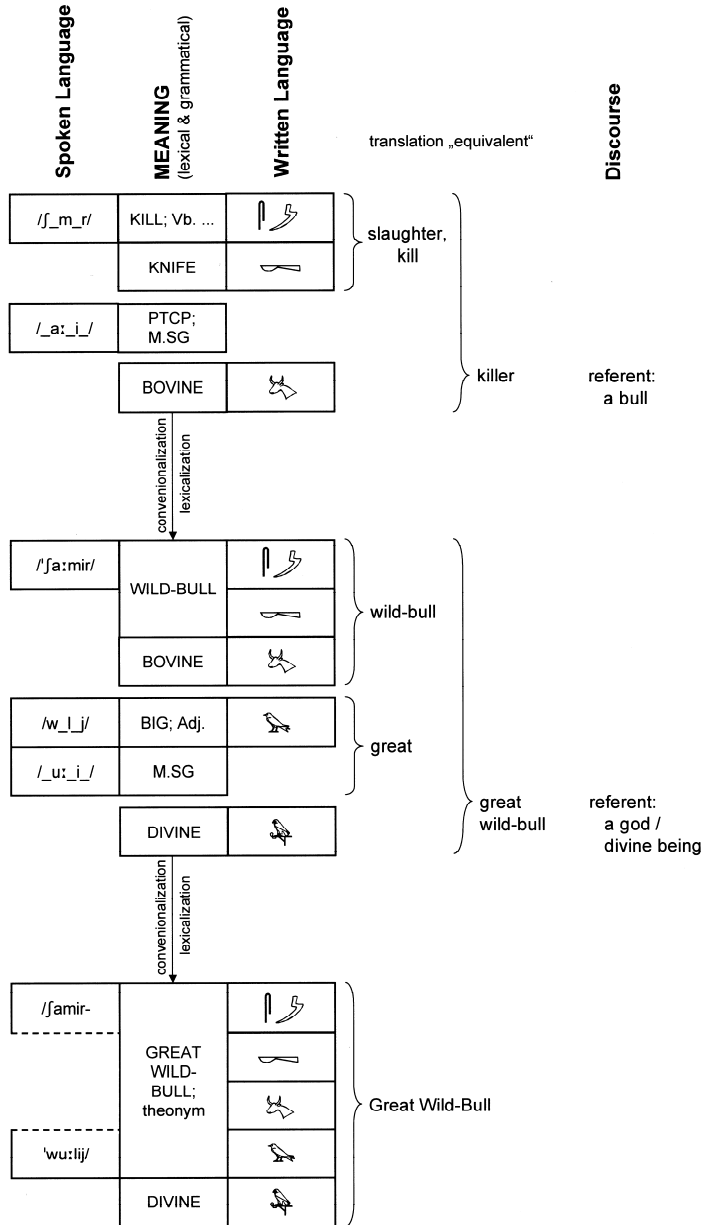













Figure 6. Lexical and referent classifiers in the network of lexical semantics, word-formation and discourse

In a second step, the participle could lexicalize as an appellativum of a type of bull, glossed ‘wild-bull’ in the upper case of the second block of Figure 6. The product of this lexicalization probably has become an entry in the “mental lexicon” and for

semantic reasons may even be considered a lexeme on its own, even though it is secondary with respect to its root and morphologically still segmentable. Now  cannot be analysed as a referent classifier anymore because it does not depend on the actual referent in discourse. Rather, it is part of the semantic frame of the noun *smʒ* ‘wild-bull’.  depicts a typical referent of *smʒ* ‘wild-bull’ and can be assigned to this element independently of cotext and context. Therefore,  on *smʒ* ‘wild-bull’ acts as what could be called a “word-form classifier” or, more precisely, a *lexical classifier of a word-form*.

The noun *smʒ* ‘wild-bull’ can take attributes, like the adjective *wr* ‘big’,<sup>58</sup> resulting in the noun phrase *smʒ wr* ‘great wild-bull’, as represented in the middle case of the central block of Figure 6. If this phrase is used to refer to a god in a text, as an epitheton for instance, an appropriate referent classifier can be added to the phrase. The classifier of choice in our example is . The referent classifier in a phrase does not seem to have a fixed position, although this might be a preliminary statement due to our present lack of detailed knowledge. In other words, it can be suffixed to the last element of the phrase or to the head of the phrase (cf. Example 11f).

Finally, the phrase *smʒ wr* ‘great wild-bull’ can also be lexicalized, becoming a complex lexical element, in this case the proper name of a god, *smʒ-wr* ‘Great Wild-Bull’, as depicted in the lower block of Figure 6. In this case, even  cannot be called a referent classifier but acts as a lexical classifier because the property of being divine is part of the semantic frame of *smʒ-wr* as a god’s name. It is, therefore, not sensitive to discourse anymore.

Another case of multiple classification is  *whʿ* ‘fowler, fisherman’, quoted by Goldwasser (2002: 16-17) and McDonald (2004a: 238). ,  and  are lexeme classifiers of the root *whʿ* ‘fowl, fish’ in which the first two have a more specific metonymic relation, i.e. a semantic role relation of an *undergoer* (cf. Kammerzell 2004 and Lincke 2011: 48). More general verb classifiers like  are emerging over time (see Kammerzell *in print* for an account of such verb classifiers in Late Egyptian). The classifier following them, , does not refer to the root. It depicts a typical referent of the noun *whʿ* ‘fowler, fisherman’, derived from the verbal root *whʿ*, and can be designated as a lexical classifier of this word-form.

With respect to Seifart’s observations on the conventionalization of classifier-host relations, it should be stressed that in the Egyptian case there is no reason to assume that concepts (i.e. lexical meanings) can derive from “conventionalized combination of noun and classifier semantics”. Unlike what has been claimed for other classifying languages, classifiers in Egyptian are not a means of lexical formation or composition. It is probably reasonable not to assume a degree of divergence between Spoken and Written Egyptian that allows for completely split lexica with (in some cases several) lexemes having lexicalized from conventionalized classifier-host relations in Written Language corresponding to only one lexeme in Spoken Language. Instead, whenever a new lexeme has developed, a classifier is assigned to it. In Egyptian, classification

58 Convincing arguments in favour of analyzing *wr* as a genuine Egyptian adjective rather than as a quality verb have been brought forward by Peust (2008: 60). New evidence comes from Werning (2011: 132-139, §§ 50-54).



comes after lexical semantic change and may be taken as an indicator of such, but is not a driving force of it.

Lincke (2011: 103) has suggested the term “Wortklassifikator” for classifiers that are not assigned to a root but to a word-form and that are not referent classifiers either. In addition, such non-referent classifiers can also appear on phrases. This type of classifiers differs from *lexeme classifiers* as discussed in Section 3.3.1 in that they cannot be assigned to all word-forms or phrases based on the same root. Supposedly, they often accompany a lexicalization process and may develop from referent classifiers by conventionalization of the classifier-host assignment.

By way of conclusion, we suggest the division of Egyptian classifiers into the two major types of *lexical classifiers* and *referent classifiers*. The former include elements hosted by roots (*lexeme classifiers*), by word-forms or by phrases (Table 5, left side). The latter can only be hosted by word-forms or phrases (Table 5, right side), since lexemes lack the necessary discursive information.







syntactic unit	type / lexicon (–pragm., +lex.) X dependent on <i>lexical-semantics</i> in	X	token / discourse (+pragm., –lex.) X dependent on <i>pragmatic factors</i> in
lexeme (root)	<i>sm</i> ³ ‘slaughter’ 	—	
word-form	<i>sm</i> ³ ‘wild-bull’ (lexicalized) 	<i>sm</i> ³ ‘the one who kills, killer’	
phrase	<i>sm</i> ³- <i>wr</i> ‘Great Wild-Bull’ (lexicalized) 	<i>sm</i> ³ <i>wr</i> ‘great wild-bull’	

Table 5. Lexical and referent classifier and possible hosts

Table 5 illustrates the fact that certain hieroglyphic graphemes – e.g.  and  – are attested as more than one kind of classifier, the actual type depending on the respective relation with either the intension or the referent of their host. In addition to acting as both a word-form and a referent classifier, as shown in Table 5, the same sign may also be used as a root classifier (e.g.  in *k*³ ‘bull’). Thus, the inventories of root, word-form and referent classifiers are not strictly separated. In consequence, the pure form of a classifier is not sufficient to decide whether we deal with a classifier assigned to a lexical element (root or word-form) or a referent classifier. Future research, however, will certainly help to define tendencies, especially in later chronolects.

Furthermore, Table 5 also summarizes the relation of the different types of classifiers in Egyptian to lexical-semantics and discourse: While root and word-form classifiers belong to the lexical sphere and are assigned cotext- and context-independently to a type (the respective lexical entry) on the basis of lexical meaning (intension of a lexeme or a word-form), referent classifiers are assigned to tokens of word-forms or phrases formed on the basis of lexical and grammatical elements according to actual referents or other relevant pragmatic factors in discourse.

### 3.4 The impact of classifiers on meaning: Semantic functions beyond redundancy?

#### 3.4.1 Referent classifiers as quasi-adjectival modifiers

As we have pointed out in the preceding paragraphs, a lexeme classifier is determined by the semantic frame of the concept that also shapes the meaning of a lexeme. The same holds true for word-form classifiers. In typological literature, dealing with nominal classification only, this is called classification according to inherent features of the noun (i.e. its typical referents).<sup>59</sup> These classifiers are said to be semantically redundant (Grinevald 2004: 1020 on sortal [numeral] classifiers, Berlin & Romney 1964: 91-92, and indirectly also Löbel 1999) because they are considered not to contribute any information that is not implied by the concept of the lexeme itself.

“Temporary” – or, in our terminology, *referent – classifiers* on the other hand, are said to have an impact on meaning: “Semantically, these forms function very much as adjectivals in English, specifying certain qualitative features of the referents of nouns” (Berlin & Romney 1964: 79, cf. also Bisang 1999: 139, Aikhenvald 2000: 268). This statement refers to the fact that this type of classifiers may provide information, e.g. about shape or social status, that other languages encode by means of adjectives. Thus, e.g., Tzeltal *mae* ‘corn dough’ is attested with twelve different classifiers specifying the “shape” of dough as ‘well-formed, perfect dislike’ (*sehþ*), ‘watery, lacking body’ (*lehs*), ‘small spherelike’ (*wol-nol*), ‘large spherelike’ (*k’ol*), etc. (Berlin & Romney 1964: 87-88), and Vietnamese *đồng nghiệp* ‘colleague’ is classified according to the social status of the referent in comparison with the speaker as *bạn* (friend), *người* (neutral), *vi* (very respectful), *ông* (older and respectful) (Löbel 1996: 174, ex. 7.17). Other researchers draw more general conclusions, assuming a stronger influence of the classifier on meaning:

“... many nouns may occur with one of a number of different classifiers, sometimes with a difference in meaning and sometimes not.” (Dixon 1982: 218)

The question that arises from these statements is whether classifiers modify the meaning of their host, whether they highlight a shade of its inherent meaning (profiling), whether they add meaning to that of the object or entity that is the referent of the host in discourse or whether all three possibilities can be attested in one language or even one instance. While this question has to be discussed for every classifier system separately with substantial data it is possible to argue for the Egyptian case on the basis of the essence of the Egyptian classifier system: As classifiers are attested in Written Language only and do not have corresponding morphemes in Spoken Egyptian, it is not likely that they modify the meaning of a host as it is not reasonable to suggest that lexical meaning would differ according whether an utterance is spoken or written (or read out). Nevertheless, one should take into consideration that attributive information can be “outsourced” in Spoken Language too, from segmental units to co-speech gesture and yet can be syntactically integrated with attributive meaning (Fricke *to*

59 Due to the fact that spoken languages employing a classifier system seemingly do not belong to the root inflecting type, the contrast between root classifiers and word-form classifiers has not yet been described in typological studies.

*appear 2012*). As for Spoken Language classifiers, one should consider a more fine-grained analysis of the quality of the respective classifier-host relation. If a classifier selects a specific referent, highlights a certain property of a referent in discourse or profiles a property of a typical referent of a lexeme or word-form discourse-independently, it is too far-reaching to speak, in a general way, of a meaning modifying function of this classifier with respect to lexical semantics, since the lexical meaning – from what we can gather based on the cotext – is not modified.






### 3.4.2 Disambiguation

Disambiguation and clarification of meaning are believed to be fundamental functions of Egyptian classifiers (e.g., McDonald 2004a: 238, Aikhenvald 2000: 82, footnote 1). These strategies are also frequently evoked for classifier systems and other nominal classification systems in Spoken Language (e.g., Aikhenvald 2000: 84 on noun classifiers, Dixon 1982: 182, 226). But when taking a closer look at the descriptions of disambiguating functions of nominal classification systems, it becomes obvious that the notions of the terms *disambiguation* or *specification of meaning* aren't very clear. Aikhenvald (2000: 84), for instance, meanders between “focusing on different properties of the referent” and derivation (“behaviour is similar to the derivational functions of noun class markers”). This shows that the specific role of classifiers in referent (or temporary) classification as contrasted with disambiguation and/or word-formation has not yet been studied in detail and that, generally speaking, the degree to which classifiers are used for one of these three purposes still needs further investigation.

We hope that it has become clear from the preceding sections that a more careful analysis of classifiers in Egyptian reveals that they are much more versatile in their functions and their usage than heretofore believed and that a structured description is possible and more enlightening than a mere reference to disambiguation. Nevertheless, the hitherto described functions and semantics of Egyptian classifiers do not *per se* exclude disambiguation. We understand disambiguation as the selection of one out of several possible meanings. Therefore, disambiguation presupposes either polysemy, i.e. two distinct meanings that share the same form (the same root) for etymological reasons, or homonymy.

A lot of cases in which the classifier seems to signal different meanings like in Loprieno's (2003: 247) *qmw* ‘stallion’ and *qmw* ‘fighter’ are, in fact, referent classification as described in Section 3.3.2 and do not disambiguate in the proper sense of the word. Referent classification gives the addressee (reader) a hint about the actual referent out of a number of possible referents but it does not refer to the lexical meaning of the respective host. The line between referent classification and classification of a polysemous lexeme is, however, not always easily to draw and must probably be discussed on a case by case basis.

Another factor that may cause different classifiers to be used within the same synchronic stratum is reclassification. Classifier-host relations tend to become conventionalized but meaning keeps changing. This may result in fossilized spelling, i.e. retention of the original classifier, or in reclassification (or maybe both). As semantic transparency of Egyptian classifiers is a crucial feature of the system, reclassification is probable if the original classifier pairs poorly with the new meaning. A good

example for this has been mentioned by Goldwasser (2009: 25): When the lexeme *mjnj* ‘moor’ and word-forms derived from it acquire the meaning of ‘die’ it can take – beside its original classifiers  and  – a number of classifiers related to death, e.g. <sup>60</sup>, <sup>61</sup>, <sup>62</sup>.

We have no evidence that the disambiguation was the driving force in the emergence of the Egyptian classifier system or its salient function. Disambiguation is, therefore, a very useful yet only secondary effect of Egyptian classifiers, not their “raison d’être”. Rather, they seem to function as a safety net: While syntax and co-text, as well as context, should be sufficient to establish meaning and referent for a competent, native (writer-)reader, the classifier makes this information explicit in Written Language while the same information would be absent in Spoken Language. Yet, the same sentence would be perfectly comprehensible when uttered or read out even without the complementary (and sometimes redundant) semantic information provided by the classifier.

Disambiguation, when claimed as a function of classifiers in whatever language, may deserve more analytical attention in order to clarify whether we face “real” disambiguation or rather referent classification or a secondary means of derivation. It is likely, however, to remain a matter of degree.

## 4 Poetry, play, politeness and pejoration – the pragmatics of classifier use

### 4.1 Classifiers and pragmatics

Recent Egyptological literature reveals that the classifier approach to the corresponding Egyptian sign function class is received with skepticism or simply ignored. So far, there has not been much discussion of its identification as classifiers, not even in case studies on particular “determinatives”. Exceptions are Loprieno (2003) and McDonald’s reviews (2004a, 2004b). Both criticize Goldwasser’s take on the issue, arguing that Egyptian “determinatives” serve certain purposes that the classifier approach cannot account for and that classifiers in other classifier-using (spoken) languages allegedly do not fulfil. While Loprieno’s discomfort with the classifier approach can be dispelled, in our opinion, with the identification of the corresponding cases as referent classification (cf. Lincke 2011: 99-105), an example adduced by McDonald (2004a) will be examined to introduce further factors influencing and determining classifier choices. They all fall under the range of pragmatics in language use. In fact, these and some other mechanisms that may cause disagreement with the identification of classifiers in Egyptian are described in many holistic descriptions of individual classifier systems as part of the system and do not constitute arguments against the classifier approach.

The usage of classifiers in Spoken Language is much less rigid than the label “classification” seems to suggest. Discourse specific and pragmatic influences on classifier choice are, in fact, very common features of classifier systems. They are

60 E.g., DZA 24.048.560 (*Book of the Dead*).

61 E.g., DZA 24.048.580 (statue of Senmut, Berlin ÄMP 2296, *Urk.* IV 405,8).

62 E.g., DZA 24.048.550 (*Book of the Dead*).

also widely attested in noun class systems and, with some limitations, in gender systems. Therefore, they are not arguments for objecting to the identification of the Egyptian morphemes as classifiers.

Angela McDonald's disagreement with the classifier approach to Egyptian culminates in the statement "Most significantly, the application of determinatives often seems to go beyond any simply classificatory function, and one struggles to find analogous phenomena in other languages" (2004a: 238). It is not the case that we disagree with this statement because McDonald is wrong in claiming that Egyptian classifiers can be part of quite complex communication purposes. In fact, we consider this quite reasonable. However, the claim that classificatory functions of other classifier systems are simple is all but convincing (a fact which McDonald herself admits in another article).<sup>63</sup> Furthermore, it is not correct that analogous phenomena are difficult to find in other languages with classification systems. In fact, many classifier systems (and other classification systems) offer their users the possibility to play, to be poetic, flattering or pejorative, particularly polite or offending through classifier use. This is a common feature of some of these languages. Dixon describes such uses as one of the main characteristics of systems of nominal classification:

"Despite their differences in grammatical status, classifiers and noun classes have a similar semantic role, both indicating speakers' attitudes to the things around them. They contrast with nouns, which describe things as they are, in a fairly objective way (which differs relatively little from language to language)." (Dixon 1982: 230)

The pragmatic functions of classifiers account perfectly for McDonald's example that will be discussed below.

#### 4.2 Social status, pejoration and amelioration in classification systems

Noun class and gender systems are generally more rigid with respect to their association of a noun with a particular class or gender than classifier systems are, i.e. the assignment of a noun to a classifying morpheme is usually conventionalized and invariable (insensitive to referent change). However, there are quite regular exceptions that have been described for several noun class and gender systems. In Nama (Hagman 1977: 23-24), Swahili (Dixon 1982: 166), Bantu languages in general (Allan 1977: 296), Dyrbal (Dixon 1982: 166) and Maasai (Payne 1998: 166), for instance, a reclassification, i.e. a change in noun class or gender, can reveal a contemptuous or disrespectful attitude of the speaker towards the referent of the classified noun (for more examples from other languages, cf. Aikhenvald 2000: 313). The examples below demonstrate this kind of reclassification for the gender system of Maasai, where "... the feminine gender can also indicate items which are construed as diminutive or pejorative (e.g., degraded, worthless, obnoxious). The masculine gender can reference an item which is biologically masculine, or augmentative (and also sometimes pejorative, though this seems less frequent than with the feminine gender; cf. *ɔlk-anáshè* 'very large sister' in (8) above)", e.g.






---

63 "Classifiers themselves in the various languages that use them often go beyond functional categorization and are used instead to increase the expressive potential of language." (McDonald 2004b: 230)

- |   |  |
|---|--|
| feminine gender   | masculine gender   |
| (14a) $\varepsilon nk-an\acute{a}sh\grave{e}$ ‘sister’                    | $\varepsilon lk-an\acute{a}sh\grave{e}$ ‘very large sister’ (pejorative)       |
| (b) $\varepsilon nk-t\acute{i}to$ ‘girl’                                  | $\varepsilon l-t\acute{i}to$ ‘large shapeless hulk of a woman’<br>(pejorative) |
| (15a) $\varepsilon nk-al\acute{a}sh\grave{e}$ ‘weak brother’ (pejorative) | $\varepsilon l-al\acute{a}sh\grave{e}$ ‘brother’                               |
| (b) $\varepsilon nk-\acute{a}m\ddot{o}y\grave{e}$ ‘wimpy male donkey’     | $\varepsilon l-\acute{a}m\ddot{o}y\grave{e}$ ‘male donkey’                     |
- (Payne 1998: 166, 8b)



As for classifier systems, there are languages which are open for pragmatic factors (e.g., Burmese and Vietnamese) and others that are not (e.g., Hmong and Thai).

A pertinent example for pragmatic impact on Egyptian classifiers is a passage from the Libyan War inscriptions of Ramses III quoted and discussed by McDonald:










- (16)    
*py-sn*      *wr*-      *dnh*-      *r\_h3t*-      *ssm-t-hm-f*  
 DEM-3PL      chief-CLF      pinion.STAT.3S.M-CLF      to\_front-      horse-F-CLF-3S.M  
 ‘... their chief is pinioned before his horse ...’ (Medinet Habu II, pl. 79, col. 11-12)

McDonald’s interpretation of the first classifier reads as follows:












“The adapted determinative of *wrw* [sic] showing a foreigner with his arms bound further humiliates these rulers, reflecting not the high status the word itself evokes, but their subjugation.” (McDonald 2004a: 238)

We agree with McDonald that the term *wr* ‘chief’ signals a high rank because it is a usual way to address a foreign ruler in Egyptian, generally without a pejorative connotation. The unusual classifier , however, as McDonald remarks, is responsible for the particular effect that she describes as humiliation. The hieroglyph does not depict a proud and sovereign ruler but a defeated and bound Libyan who shows no indication of a high rank. Thus, using an appropriate noun with a classifier that does not account for the social status conveyed by the noun, is a pragmatic means similar to noun class and gender change as mentioned above and can be used to express a notion of pejoration vis-à-vis the referent of the noun phrase *py-sn wr*.<sup>64</sup> Syntactically,  is not hosted by the lexeme *wr* ‘big’ or the word-form *wr* ‘chief’ but by the phrase *py-sn wr* ‘their chief’.

Example (17) is ideal for clarifying once more a few major issues of this paper – the contrast between lexical classifiers and referent classifiers as well as possible context- and cotext-sensitivity.








- (17)     
*sph*--      *ph*--*sw*-      *snt*--*sw*-  
 rope-INF-CLF-CLF      approach.PTCP-CLF-3S.M-CLF      resent.PTCP-CLF-3S.M-CLF  
 ‘(...) roping the one who assaults him or offends him’ (Urk. IV 1076,1)

64 For the quasi-concordance between the classifier of the noun phrase and the classifier of the verb in this example and similar cases, cf. Kammerzell (*in print*).

The expression *ph--sw-* ‘the one who assaults him’ exhibits two classifiers: , attached to the root as a lexical classifier, and , hosted by the phrase *ph-sw*. Notwithstanding the degree of lexicalization of *ph-sw*,  here definitely does not belong to the category of lexical classifiers (like maybe  in    <sup>65</sup>). The grapheme  has no relation with the intension of *ph-sw* at all but refers to the real world entity designated by the actual expression, thus acting as a referent classifier. This hints at both the writer’s attitude towards the referent as well as the referent being the undergoer of the governing verb ‘to rope’. The close connection between the verb *sph* and its object is not only marked by the iconic reactivation of the verb’s intension by means of a classifier depicting a bound person but also by a consonantal assonance *s-p-h / p-h-s*.

An example for pejorative re-classification of a ruler is also reported for Burmese, a language with a rather large classifier system:

“If one considered a king to be depraved, he might classify him in private as an animal, though it might be wise and safe to classify him in public as a saint” (Becker 1975: 115)

It is possible to imagine ameliorative re-classification for Egyptian, using a flattering classifier in public similar to Becker’s example of a sanctified king from Burmese. Classifiers like  or  on names (and sometimes on titles as well) of a tomb-owner might be instances in which the classifier expresses a respectful or even flattering attitude of the draftsman or the tomb-owner who employed him towards the name’s referent (e.g., the tomb-owner himself!). This claim, however, has to be checked against orthographic rules and classifier use in the respective corpus. Goldwasser (2009: 28) suggests that “these classifiers transfer a personal name from the general category  [MALE+HUMAN] into the “better” category of the revered ones”. In our opinion, it is not the name that is transferred but the referent of the name, i.e. the name holder. This is evident from analogous cases which can be also subsumed under the heading of referent-honorification, e.g.   *rnn-t* ‘who was educated’<sup>66</sup> – with  instead of unmarked .<sup>67</sup>


## 5 Summary

In this paper, we have discussed the position of Egyptian classifiers at the interface between lexicon and discourse, as well as semantic and pragmatic factors that may determine the choice of a classifier.


The question of the emergence of classifiers, as well as the problem of how to determine the meaning of a particular classifier could only be touched on. Both topics necessitate thorough research in the future. For the time being, we can name three possible sources of classifier meaning: (1) the meaning of the root that the particular

65 See p Leiden I 350 rto. 5.5 (DZA 23.434.190).

66 Inscription of Hatshepsut on the base of her northern obelisk at Karnak (*Urk.* IV 361,15).

67 Perhaps in this particular case, the status of the referent (Hatshepsut herself) was not the only reason for choosing the grapheme . The use of the sign of a child wearing the Red Crown on the word-form *rnn-t* may have been triggered by the crown’s name *n-t*. For instances without an additional poetic motivation, cf. *jnp* ‘Crown-Prince’ (*Urk.* IV 157,7), *wdh* ‘weaned child’ (*Urk.* IV 157,8), *nhn-w* ‘child’ (*Urk.* IV 157,12),

hieroglyph was first used for (as a logogram or as a repeater-like classifier), (2) the retroactive effect of a category, its extension and member alternation, on the meaning of its classifier, and (3) the properties of the object (or action) that a hieroglyph depicts (iconicity).

A discussion of possible category structures showed that these – as one would expect in the case of a natural categorization system, be it linguistic or not – are not likely to correspond to encyclopedic categories. In addition, they do not necessarily reflect lexical categories as marked by hyperonyms in the lexicon or covert categories. This result differs from conclusions reached in earlier works on Egyptian classifiers (cf. in particular Goldwasser 2002: 80-82 on the classifier ).

The prototype approach to category structures proved fruitful beyond taxonomic categories for the description of complex, predominantly formal categories. We demonstrated that different assignment principles governing category membership may be responsible for the existence of these heterogeneous surface categories. Also, different properties of the object depicted by the hieroglyph can be activated when it is used as a classifier. This also contributes to the heterogeneity of categories marked by a classifier. Furthermore, rudimentary forms of chaining could possibly be detected in Egyptian. They remain, however, a peripheral property of the system. It is due to its high number of possible classifiers and its open hieroglyphic inventory that Egyptian had to resort to chaining only rarely if at all. Diachronic category extension and shift of category centre are other important factors in this respect that have already been studied in individual cases but should be further investigated.

An analysis of certain types<sup>68</sup> of classifier variation and multiple classification revealed that both phenomena are not the results of arbitrary choices of Ancient Egyptian scribes and do not prevent us from a systematic description or even an identification of the Egyptian morphemes in question as classifiers at all. Instead, this type of variation is governed by a fundamental opposition between classifiers that are assigned according to the intension and the semantic frame of a lexical element – be it a root, a word-form or a lexicalized phrase (*lexical classifiers*) – and classifiers that are chosen according to the actual referent of a lexical element in discourse (*referent classifiers*). The former belong to the realm of lexical semantics, the latter are sensitive to context and pragmatics. A comparison with other noun categorization systems shows that this result is not a peculiarity or even exclusive property of the Egyptian classifier system. Quite the contrary: Egyptian classifiers behave exactly like other systems of nominal classification, where a classifier can be bound either to the lexical semantic sphere of its host (lexeme or root classification and word-form classification equates to Payne's type B) or to properties of its host's referent (referent classification), be it in a pragmatically neutral way (type C after Payne) or with strong pragmatic influence (type D after Payne).

Our analysis rules out disambiguation as the source or main function of Egyptian classifiers. It is nothing but a secondary effect, yet very helpful even for the modern reader.

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68 In this paper, we have not discussed free variation that is also frequently attested in classifier systems other than Egyptian when a host fits in different categories.



Finally, with respect to Egyptian, we can answer some of the questions that Gunter Senft raised in the insightful introduction of his *Systems of nominal classification*:

“We can conclude that all classifiers indeed ‘do have a meaning’ (Allan 1977: 290). But how is this meaning achieved and what does it do? The classifier that refers to a nominal referent may individuate the noun and then highlight a special (shade of) meaning which then extracts one special referent out of the sum of possible extralinguistic referents the noun can refer to if it is not specified by this classifier. If this is the case, we have to ask whether the classified noun the classifier referred to is still the same noun that is to be found in the lexicon (without being classified by one or the other or even by more classifiers). Does a classifier only refer to an object in the extralinguistic reality or does it also refer to the intralinguistic category ‘noun’ and change its meaning? Or, in other words, does the CP [classifier phrase, ESL&FK] refer to a ‘referent’ in the ‘real world’ or to a ‘noun’, an entity in the lexicon of a language? However, we can even argue the other way round: if a noun is classified by a certain classifier, will the meaning of the noun influence the meaning of the classifier?” (Senft 2000: 35)

The answers to these questions are as follows: Classifiers in Egyptian either classify a linguistic element (in the majority of cases a nominal or verbal lexeme) or its referent. This opposition is independent of the syntactic status of the host (word-form or phrase), except if the classified element is a root (classification of a linguistic element, not of its referent). In the case of referent classification, the classifier does not select the referent of its host. It is precisely the other way around: The classifier is chosen according to properties of the referent. Referent selection by means of the classifier exceeds the degree of divergence of Spoken and Written Language that (even) we are ready to admit as it would require non-identity between the referents within a written utterances and its spoken counterpart (without referent-selecting classifier). Furthermore, the meaning of the host does not get modified by its classifier. But a classifier change (re-classification) or the assignment of an additional classifier can indicate a semantic change of the host. We found no evidence that, in the case of lexical elements that are attested with distinctive classifiers in different instances, a particular classifier highlights a particular “shade of meaning” of its host. This, however, does not exclude scattered attestations of such phenomena. Finally, the meaning of an individual noun (or other word-form) does not change the meaning of an Egyptian classifier. But the sum of hosts of a classifier, i.e. the category, is not without effects on the meaning of a classifier and can change it over time or, maybe, also from corpus to corpus. This hypothesis still needs further research. We cannot confirm, in fact, that the meaning of a classifier is determined by the following list of factors as Senft supposes, but we can conclude that the assignment of an Egyptian *referent classifier* definitely depends

- on the position of the respective classifier in the semantic network constituted by the respective classifier system,
- on the situation and the context in which the CP [classifier phrase; ESL&FK] is used,
- on the nominal referent to which it refers,
- on the means and ends a speaker wants to achieve and express using a certain classifier (to refer to a noun).” (Senft 2000: 38)

## Acknowledgments

This article benefited greatly from the insightful commentary of Silvia Kutscher in the course of our numerous discussions with her. Our exchange was supported by the European Cooperation in Science and Technology (COST), Action A31 *The Stability and Adaptation of Classification Systems in a Cross-Cultural Perspective*, and Excellence Cluster 264 *TOPOI – The Formation and Transformation of Space and Knowledge in Ancient Civilizations*. Additionally, the German Israeli Foundation (GIF) is sponsoring a joint project *Ancient Egyptian Classifiers in a Diachronic Perspective* and has thereby made possible a fruitful exchange with Orly Goldwasser and other members of the Jerusalem team of this project.

We would also like to thank Daniel Werning of the abovementioned GIF project for discussions on particular glossing issues, on questions of classification in Egyptian in general, in addition to sharing with us a co-authored monograph in preparation. Furthermore, we are indebted to Camilla Di Biase-Dyson for most helpful comments on the draft and for her tireless advice as a native-speaker of English. Janne Arp provided us access to a poorly distributed paper. And Dörte Borchers corrected our transcription of Burmese examples. We are grateful to both of them for their help.

Finally, we would like to express our gratitude towards the editors of this volume – not only for inviting us to contribute a paper on the relationship between lexical semantics and classifiers in Egyptian but also for commenting on the draft. We thank Eitan Grossman in particular for some stimulating questions that we took as our point of departure and for exhaustive discussions on the draft.

## Glosses

Glossing follows the Leipzig Glossing Rules (revised version of February 2008: <http://www.eva.mpg.de/lingua/resources/glossing-rules.php> last access: 2011-10-12) and Di Biase-Dyson, Kammerzell & Werning (2009) except that we do not distinguish affixes and clitics (both marked by a hyphen). Glosses not included in both titles are listed below.

BSL basilonym, name of a king

PRON pronoun

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