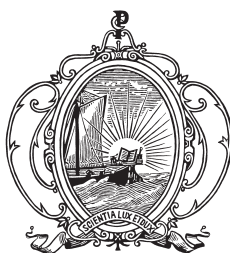# PROCEEDINGS OF THE TENTH INTERNATIONAL CONGRESS OF EGYPTOLOGISTS

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THE "DETERMINATIVE" IS PRESCRIBED AND YET CHOSEN. A SYSTEMATIC VIEW ON EGYPTIAN CLASSIFIERS

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Outline

This paper is on the classification of verbal lexemes and their derivations. It is based on the study of classifiers used in the Pyramid Texts.

A systematisation of most cases of verb classification in Old Egyptian is suggested in Frank Kammerzell's paper in this volume (see p. 1395-416). Our papers are complementary and it might prove helpful to read both of them.

The first part will introduce a model that may serve to describe the relationship between a quality or verbal lexeme and its classifier, which cannot be specified by the semantic role model (see Frank Kammerzell's paper, section 2). Those relations can however be grasped with the help of semantic frames.

In the second part, a model to describe certain cases of double classification will be introduced. This model will clarify some alleged contradictions between the systematic use of classifiers and contextual (or better co-textual) "determination" as proposed by some colleagues. The analysis of classifiers on deverbal nouns and participles that I argue for suggests that we should speak of different levels at which classifiers were assigned to a word.

A demonstration of the interference between different levels of classification by means of an example from the Pyramid Texts concludes the paper.

Verb classification and semantic frames

Adjective verbs and their antonyms

The set of semantic role relations introduced by Frank Kammerzell covers the majority of relations between a verb and its classifier in Old Egyptian[1]. However, there are certain cases in which the relation between a verbal lexeme and its classifier cannot be described by way of semantic roles.

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[1] F. KAMMERZELL, 'Egyptian Verb Classifiers', this volume, p. 1395-416.

In Egyptian, verbal lexemes (i.e. verbs denoting states or qualities) are used in cases where English normally employs adjectives (+ be). Examples for such lexemes in Egyptian are 𓇳𓎡𓏏 *snk* "dark", 𓎛𓄿𓇋 *ḥ3j* "naked", 𓈖�𓏤 *nqm* "bald" and 𓂋𓏤𓏲 *jwj* "shipwrecked". Whereas none of the semantic roles seem fitting to describe the relation of lexeme and classifier, the connection between both is obvious. "The most salient characteristic of shade and darkness is the absence of [SUN]"[2]. This is why Kammerzell suggested introducing the semantic role ABSENTEE[3]. This role was conceived for the type of relation that is constituted by a classifier depicting a participant whose absence is expressed by the classified lexeme and constitutes the crucial part of its intension. However, the ABSENTEE is not part of the set of semantic roles established for the analysis of semantic deep structures in syntax for which the semantic role model had originally been developed[4]. Incorporating a role which is not mirrored in the semantics of sentences into the model would mean to deviate from the idea of a shared cognitive structure of semantic roles in sentences and in lexeme–classifier relations[5].

The relation between the above-mentioned lexemes and their respective classifiers can however be described without leaving this common ground of established semantic relations. The semantic relations we are now concerned with are called semantic frames (see below). In the mental lexicon, a considerably close relation appears to exist between a particular term and its antonym. This closeness can be tracked in results from word association tests[6]. The antonym of a word is the most frequently named term associated with the given stimulus word. The most frequent answers given by test persons for the following adjectives were always adjectives expressing the contrary:

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[2] O. GOLDWASSER, *Prophets, lovers and giraffes: Wor(l)d classification in Ancient Egypt*, with an Appendix by Matthias Müller, Göttinger Orientforschungen IV. Reihe: Ägypten 38,3 = Classification and Categorization in Ancient Egypt 3 (Wiesbaden, 2002), 14.

[3] The ABSENTEE is not included in the original set of semantic role relations proposed by F. Kammerzell, 'Abschlußbericht des deutsch-israelischen Kooperationsprojekts "Typologie und Gebrauch der ägyptischen Hieroglyphenschrift" [unpublished] (2004), partially reproduced in E.-S. LINCKE, *Die Prinzipien der Klassifizierung im Altägyptischen*, Göttinger Orientforschungen IV. Reihe: Ägypten 38,6 = Classification and Categorization in Ancient Egypt 6 (Wiesbaden, 2010). It is also mentioned by S. SCHWARZ, *Schiffe und Schiffsteile als Klassifikatoren in der ägyptischen Hieroglyphenschrift*, Magisterarbeit, available on http://www.sandro-schwarz.com/NaviformeKlassifikatoren.pdf, last access 21 September, 2008 (Berlin, 2005), 72, footnote 145.

[4] On details see E.-S. LINCKE, *Die Prinzipien der Klassifizierung im Altägyptischen*.

[5] KAMMERZELL, this volume, p. 1395-416.

[6] Such tests have been carried out by J.J. JENKINS, 'The 1952 Minnesota word association norms', in: L. POSTMAN and G. KEPPEL (eds.), *Norms of word association* (New York and London, 1970), 1-38; G. KEPPEL and B.Z. STRAND, 'Free-association responses to the primary responses and other responses selected from the Palermo-Jenkins norms', in: POSTMAN and KEPPEL (eds.), *Norms of word association*, 177-239; W.A. RUSSELL, 'The complete German language norms for responses to 100 words from the Kent-Rosanoff Association Test', in: POSTMAN and KEPPEL (eds.), *Norms of word association*, 53-94 and many others.

stimulus	–	answer
dark	–	*light*[7]
light	–	*dark*[8]
cold	–	*hot*[9]
bitter	–	*sweet*[10]

The pairs formed by adjectives and their respective antonyms are called opposite coordinates[11].

The application of these observations is straightforward. The relation between the hieroglyph ☉ [SUN] and the lexeme 𓏏 *snk* "dark" can be described as follows: Lexemes are closely linked to their antonyms. The antonym of "dark" is "light". The relation between ☉ [SUN] and the lexeme *ḥḏ* "light" could be described by means of the semantic role of ZERO[12]. This role is defined as the role of "an entity that merely occurs in some location or exhibits a certain property"[13]. The sun exhibits the property [LIGHT] and thus may take the hieroglyph ☉ [SUN] as classifier. In a second step, the lexeme *snk* "dark" adopts the classifier of its opposite coordinate "light". Thus, the classifier of a lexeme may be assigned to its antonym as well. The same reasoning can be carried out for the other mentioned quality lexemes. Either the relation between the lexeme's antonym and its classifier can be described with the help of the semantic role of ZERO, or the classifier depicts the object whose possession is expressed by the respective opposite coordinate lexeme. The classifier of this antonymic lexeme is then adopted by the quality lexeme in question.

These opposite coordinate relations are attested for lexemes expressing a quality. In Egyptian, quality lexemes are attested as adjective verbs[14]. Furthermore, the association of terms in the mental lexicon also provides the means of description for non-quality lexemes.

Semantic frames and classification beyond antonyms

Terms are linked to other terms applying certain rules. For example, qualities are paired with their antonyms. Concrete or abstract objects are interconnected with

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[7] RUSSELL, in: POSTMAN and KEPPEL (eds.), *Norms*, 57; KEPPEL and STRAND, in: POSTMAN and KEPPEL (eds.), *Norms*, 196.

[8] JENKINS, in: POSTMAN and KEPPEL (eds.), *Norms*, 23.

[9] Ibid., 15.

[10] Ibid., 11.

[11] J. AITCHISON, *Words in mind. An introduction to the mental lexicon* (Oxford and Cambridge, Mass., 1993 [1987]), 77.

[12] Cf. LINCKE, *Prinzipien*; KAMMERZELL, 'Egyptian Verb Classifiers', this volume, p. 1395-416.

[13] R.W. LANGACKER, *Grammar and conceptualization,* Cognitive Linguistics Research 14 (Berlin and New York, 2000 [1999]), 24.

[14] The few existing primitive adjectives normally do not take a classifier in Old Egyptian.

activities, "bed" and "dream" with the verb "sleep" for instance (and the other way around)[15]. Those associations indicate the semantic frame of a term which is crucial to its understanding. Monolingual dictionaries utilise semantic frames to define unfamiliar words. In his introduction to Cognitive Linguistics, David Lee writes: "If one were asked by a non-native speaker of English what the word "wicket" meant, one might consult a dictionary for help. The Concise Oxford Dictionary gives the following definition: "wicket – one set of three stumps and two bails". But how much would this mean to a non-native speaker of English who knew nothing of the game of cricket?"[16] If one does not know what stumps and bails are, what they look like, what they are used for and how they are used one will not understand the cited definition of a wicket. This points to some conditions for the understanding of a term:

– The speaker has to have an idea of the semantic frame of a term. That is, he has to know about the real world interactions of the object, action, or whatever signified by a word. To understand the verb "to buy" for example, one has to know about the exchange of goods against a standardised guaranteed currency, and also an understanding of property and so on.

– The understanding of a meaning depends on the encyclopaedic knowledge of its user. The term "encyclopaedic knowledge" is used in Cognitive Linguistics and refers to our world knowledge, as formed by our perception and experience. This means, respectively, that encyclopaedic knowledge depends on the culture we live in. An Ancient Egyptian from before the Persian Period, for example, would not have had an idea of "buy" (contrasting with "trade" or "exchange"), because the acquisition of an object or a service for a standardised metal coin of equivalent value was not yet known in Egypt by then. However, every child in Primary School in India or Australia would probably know what a "wicket" is while the meaning of this term remains obscure for most other people in the world who do not share a special interest in the game of cricket.

– Some types of participants, which are described by means of semantic roles by Kammerzell[17], belong to the semantic frame of a word. The association "bed" for "sleep", for example, could be described by means of the semantic role LOCATION. The bed is the place where a human being sleeps (if he lives in the Western hemisphere).

– As mentioned before – repeated just for the completeness here – antonyms are crucial to the semantic frame of a quality lexeme. You only know what "hot" means if you have an idea of the term "cold", too.

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[15] JENKINS, in: POSTMAN and KEPPEL (eds.), *Norms*, 10 and 17.
[16] D. LEE, *Cognitive Linguistics: An Introduction* (Oxford, 2001), 8.
[17] KAMMERZELL, this volume, p. 1395-416.

The model of semantic frames helps to clarify the systematic relation between lexemes and their classifiers if they are quality lexemes and their respective antonyms. Furthermore, semantic frames provide us with a systematic analysis of the lexeme–classifier relation for certain other verbal lexemes. The verbal lexemes in question are *ḥqr* "hunger / starve" and *jbj* "thirst". The semantic frame of these two lexemes can be discerned with the help of word association tests again. Two such association tests for the words "hungry" and "thirsty" have been carried out, one with native speakers of German and one with native speakers of English. The test persons were asked to give their first associations for those particular stimulus words among others. The results are as follows:

most frequently named terms	Jenkins[18] (English) *Hungry*	Russell[19] (German) *hungrig*	Jenkins[20] (English) *thirsty*	Russell[21] (German) *durstig*
1.	food	durstig (thirsty)	water	hungrig (hungry)
2.	eat	essen (eat)	drink	Wasser (water)
3.	thirsty	satt (full)	dry	Bier (beer)
4.	full	Brot (bread)	hungry	trinken (drink)
5.	starved	Magen (stomach)	beer	Wüste (desert)

Some sort of coordinate – "thirsty" for "hungry" and "hungry" for "thirsty" respectively – is in a prominent role (third and fourth place in the English test and first place in the German test). Other frequent associations concern the action which is linked most closely with "hungry" or "thirsty": "eat" (second place) respectively "drink" (second and fourth place). The means by which the undesirable state of hunger or thirst could be ended – "food"[22] (first place, "bread" in the German test) and "water" (first and second place; additionally, in the German test "beer" in the third position) – are among the more prominent answers, too.

Some culturally influenced results were obtained. For example in the test carried out by Russell for "hungry" the fourth most frequent association was "bread". In some parts of Asia, we would have to assume that the result would have been "rice", because in these regions rice is the staple food instead of bread.

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[18] JENKINS, in: POSTMAN and KEPPEL (eds.), *Norms*, 22.
[19] RUSSELL, in: POSTMAN and KEPPEL (eds.), *Norms*, 81.
[20] JENKINS, in: POSTMAN and KEPPEL (eds.), *Norms*, 35.
[21] RUSSELL, in: POSTMAN and KEPPEL (eds.), *Norms*, 85.
[22] In German, the term for "food" is "Essen", phonetically identical with the verb "essen" ("to eat"). This phonetic redundancy is probably the reason why the test persons did not list both the verb and the noun closely together. As a result, the noun dropped from a prominent position in the average.

In the Pyramid Texts, the lexemes *ḥqr* "hunger" and *jbj* "thirst" are classified by means of the following hieroglyphs:

– *ḥqr* by 𓀁 [MAN WITH HAND TO MOUTH] and 𓏱 [BREAD],
– *jbj* by 𓀜 [MAN LIFTING A VESSEL TO HIS MOUTH] and 𓎼 [VESSEL].

None of these classifiers can be described by means of the semantic role model. 𓏱 [BREAD] for example, cannot be described as UNDERGOER or any other participant of the state of "being hungry". But the hieroglyph 𓏱 [BREAD] appears on lexemes which belong to the close semantic frame of *ḥqr* and *jbj*. It is the lexemes *wn(m)* "eat" and *zwr* "drink" that take exactly the same classifiers in the Pyramid Texts. For *wn(m)* and *zwr* the lexeme–classifier relation is straightforward. 𓏱 [BREAD] can be attributed to the semantic role of UNDERGOER. 𓎼 [VESSEL] is the SOURCE from which a person drinks. The grapheme 𓀁 [MAN WITH HAND TO MOUTH] could be described as an AGENT performing the act of eating[23]. This hieroglyph became the superordinate level classifier[24] assigned to all terms expressing a concrete or abstract act of putting things inside the body (and the mind) or voicing emotions and thoughts (conceived as coming out of the body and the mind). The hieroglyph 𓀜 [MAN LIFTING A VESSEL TO MOUTH] is again the depiction of the act (represented by the AGENT and an INSTRUMENT or the SOURCE) expressed by the lexeme as a hieroglyph.

It is because of the close semantic connection of hunger, food and eating respectively thirst, water and drinking that terms like *ḥqr* "hunger" and *jbj* "thirst" are attested with the same classifiers as *wn(m)* "eat" and *zwr* "drink". Lexeme–classifier relations like the ones treated above, while eluding other means of systematisation, can therefore be analysed as semantic frame relations.

Double classification

Lexeme-bound classification

Certain cases of double classification also elude a systematic description of the lexeme–classifier relation by way of the means suggested until now. However, they can also be integrated into a systematic analysis.

The principles of classification that have been mentioned so far refer to lexeme–classifier relations and not to word–classifier relations. The observation that we must differentiate into abstract lexemes (or: roots) and actual words results from the evidence of attested written forms. The models of verb (and adjective verb) classification

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[23] Cf. KAMMERZELL, this volume, p. 1395-416.
[24] For taxonomic classifiers see GOLDWASSER, *Prophets* with respect to nouns and LINCKE, *Prinzipien* with respect to verbs.

proposed in Frank Kammerzell's paper[25], as well as in my work, are lexeme-bound. This means that a classifier is not assigned to a word derived from a lexeme, but to the lexeme itself[26]. Thus, the classifier belongs to a more abstract level and is assigned prior to the process of word formation.

For example, if the words *ḥqr* "hunger" (as noun), *ḥqr* "to starve / to hunger" (as verb) or *ḥqr.w* "the hungry" (as participle or verbal noun) should take a classifier it would be the same for all three realisations of the lexeme *ḥqr* (figure 1).

ḥqr "the hunger" ——————→

ḥqr "to starve" ——————→

ḥqr.w "the hungry one" ——————→
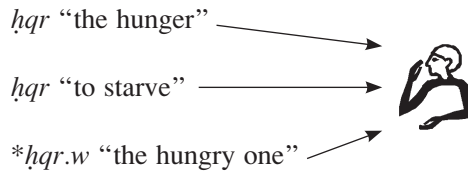
Fig. 1. Lexeme-bound classification for *ḥqr* "hunger"[27].

Even when taking other elements during the process of word formation like the *m*-prefix in *mzwr* "drinking place" from the base *zwr* "drink", the classifier does not change (figure 2).
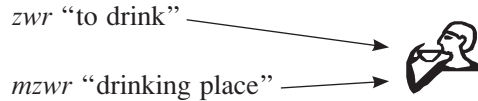
zwr "to drink" ——————→

mzwr "drinking place" ——————→

Fig. 2. Lexeme-bound classification for *zwr* "drink".

Referent-bound classification

Verb derivatives often take a second classifier. This results in double classification. The traditional description of this phenomenon claims that the more specific "determinative" precedes the more general "determinative". The latter seem to be quite variable, which often led to the assumption that the choice of a classifier would be

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[25] KAMMERZELL, this volume, p. 1395-416.

[26] If a word of Spoken Egyptian consisted of nothing but the consonantal root (lexeme) and the vocalic tier (grammatical morpheme) and did not show any further consonantal derivative elements (like, e.g., a feminine ending), the correponding word in Written Egyptian may be identical in shape with the lexeme, since the vowels were not taken into account in writing.

[27] The asterisk (*) indicates that this word (TLA lemma number 110550) is not attested in this spelling in the Pyramid Texts. It is however attested from other sources of the Old Kingdom with the unmutilated form of [MAN WITH HAND TO MOUTH].
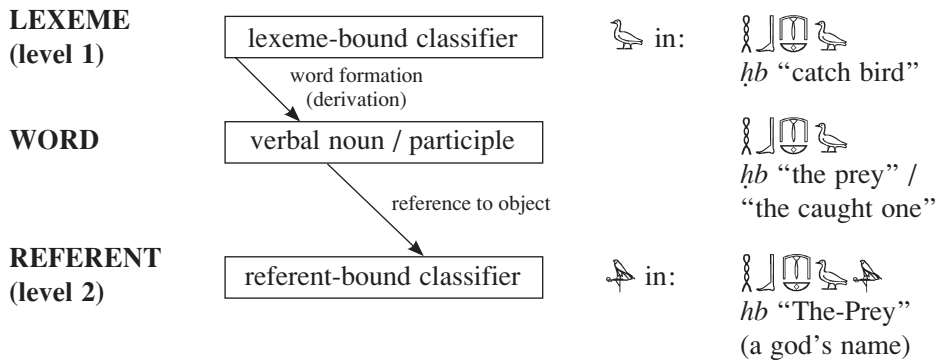
LEXEME | lexeme-bound classifier | 𓅯 in: 𓇓𓃀𓅱
(level 1)   ḥb "catch bird"

word formation
(derivation)

WORD | verbal noun / participle | 𓇓𓃀𓅱
                                                                  ḥb "the prey" /
                                                                  "the caught one"

reference to object

REFERENT | referent-bound classifier | 𓅆 in: 𓇓𓃀𓅱𓅆
(level 2)   hb "The-Prey"
                                                                  (a god's name)

Fig. 3. Two levels of classification for designations and proper names.

determined by the context or would "signal an opposition between two intensional meanings of a homophonic linguistic string"[28]. In fact, the second classifier cannot be attributed to the lexeme and therefore cannot be attributed to the intension of a lexeme either.

The lexeme ḥb "catch bird (or fish)" may serve as example here (figure 3). This lexeme is verbal at the base. It can take the classifier 𓅯 [DUCK]. This classifier can be described by means of the semantic role of UNDERGOER, as the bird is a prototypical UNDERGOER of that action. This classifier is part of the semantic frame of catching fish or – to apply the term introduced to the discussion by A. Loprieno – of the intension of the lexeme[29].

A derivative of this lexeme – a verbal noun – is attested in the phrase ḥb "the prey". This noun is attested as designation or proper name of a god in the Pyramid Texts. In addition to the lexeme bound classifier – 𓅯 [DUCK] – the word takes a second classifier, 𓅆 [FALCON ON A STANDARD], the divine classifier[30].

The second classifier is situated at a different level of word formation. While 𓅯 [DUCK] could be used for all realisations of the lexeme ḥb "catch bird", the god classifier is attached only after deriving a word from the lexeme and assigning it to a specific referent (in this case the god). This is why the first classifier can be designated as primary or level-1 classifier and the second one as secondary or level-2 classifier.

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[28] A. LOPRIENO, 'Is the Egyptian hieroglyphic determinative chosen or prescribed?', in: L. MORRA (ed.), *Philosophers and hieroglyphs* (Turin, 2003), 247.

[29] LOPRIENO, in: MORRA (ed.), *Philosophers and hieroglyphs*, 247-8.

[30] As for classifiers for gods, cf. R. SHALOMI-HEN, *The writing of gods. The evolution of divine classifiers in the Old Kingdom*, Göttinger Orientforschungen IV. Reihe: Ägypten 38,4 = Classification and Categorization in Ancient Egypt 4 (Wiesbaden, 2006).

As for the choice of ⚑ [FALCON ON THE STANDARD] as classifier, an attribution of a specific referent must have taken place. This is why the second classifier seems so variable. In contrast to the lexeme-bound level-1 classifier, which is restricted to things from the semantic frame (or intension) of a term, the level-2 classifier gives us information about the extension of a term. Out of the set of possible referents that could have been referred to as "caught ones" or "preys" the classifier points us to the gods. Secondary classifiers are hence attested for words that express designations or proper names only. In Spoken Language, it is the context only that provides the necessary information about the extension of the realised word.

Constructions taking a referent-bound (level-2) classifier

Level-2 classifiers can be assigned to different types of simple nouns and to more complex nominal phrases. The particular types of nominal phrases that are attested with a level-2 classifier in the Pyramid Texts are presented in the following list. One example for each of them is given.

type of nominal phrase	transcription	translation	lexeme-bound = level-1 classifier	referent-bound = level-2 classifier
participle	*J3sw*	"the Bold One" (name of a place in the sky)	–	⊗ or ▭
participle[31]	*Mnj.t (wr.t)*	"the (great) Mooring Post" (designation of Isis)	⎮ (assigned to *mnj*)	🦢 or 🦅 (assigned to *Mnj.t*)
participle + adjective	*Mḥ.t-wr.t*	"the Great Inundation" (name of a divine cow)	〰〰 (assigned to *mḥ*)	🐄
participle + participle	*Wp-ḫnn.w(j)*	"who separates the brawlers" (name of a god)	⤵ (assigned to *ḫnj*)	🦅
nisba	*Jmnt(.j)*	"the Western One" (name of a wind)	– (logogram)	⍟
noun + possessed	*Nb-tm(w)*	"Lord of All" (name of a god)	–	🦅

Level-2 classification is not limited to deverbal nominal phrases. It is also attested for expressions the head of which is a primitive noun (cf. *Nb-tm(w)* "Lord of All").

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[31] In this case, the level-2 classifier is assigned only to the first part of the nominal phrase, the participle. This might indicate that the nominal phrase consisting of participle + adjective was not conceived as a naturalised unit by the scribe.

Integration of both levels in a single classifier

In some cases – and certainly as evidence of the hybrid character of the Egyptian writing system[32] – the information about the reference object can be integrated into the hieroglyph used as lexeme classifier. In the Pyramid Texts of Pepi II, for instance, the detailed anthropomorphic representation of the human face was avoided by all means. In one case this restriction of the hieroglyphic inventory led to the integration of the information about the non-human species of a signified in what has to be analysed as the lexeme classifier. The hieroglyph assigned as a classifier to the lexemes *jšš* and *tf,* both meaning "sneeze" or "spit out", is normally a depiction of a spitting human head. In one instance it is replaced by ⟨glyph⟩ [SPITTING LION HEAD].

⟨hieroglyphs⟩   ⟨hieroglyphs⟩ (Pyr. 1652c^N)

jšš.n=k   m   Šw   tf.n=k   m   Tfn.t

  "When you sneeze it is Shu, when you spit it is Tefnut".

In that particular paragraph, the special classifiers refer to the gods Shu and Tefnut who were conceived (in their zoomorphic form) as lions. Thus, the classifiers for "spit" and "sneeze" integrate information about the species of the ones who were spat out (the UNDERGOER of the action) and who are the referents of the whole nominal clause.

   Cases demonstrating such a high degree of creativity are however not the norm during the Old Kingdom. This is not astonishing. Only if the means provided by the hybrid character of the system were used modestly would they arouse the attention of the reader at which they probably aimed.

Conclusions

Verb classification has not been included in earlier works on Egyptian classifiers. A model of description for verb classifiers has been suggested by Frank Kammerzell[33] and in this paper. It turned out that verb classifiers can be described systematically by means of semantic role relations and semantic frames. In this regard, they are prescribed. However, the scribe could choose from different options comprised by the system.

   This study has demonstrated that Egyptian verb classification is basically lexeme-bound. This type of classification can also be designated as level-1 classification. However, verbal derivatives can – when used as designations or proper names – take a classifier, which is assigned according to the reference object (level-2 classification). The latter cases of classification are co-textual in a way. Since they can be analysed systematically, one should however not consider them elements that could be chosen at random.

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[32] As for the hybrid character of the Egyptian writing system, cf. KAMMERZELL, this volume, p. 1395-416.
[33] Cf. KAMMERZELL, 'Egyptian Verb Classifiers', this volume, p. 1395-416.