Coping with Obscurity:

The Brown Workshop on Earlier Egyptian Grammar

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James P. Allen
John M. Steele

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COPING WITH OBSCURITY: THE BROWN WORKSHOP ON EARLIER EGYPTIAN GRAMMAR

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Edited by

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Preface

James P. Allen, Mark A. Collier, and Andréas Stauder

The papers in this volume were initially presented and discussed at the Brown Workshop on Earlier Egyptian Grammar, held at Brown University on March 27–29, 2013, under the auspices of the university's Department of Egyptology and Assyriology. The impetus for the workshop came from the conference "New Directions in Egyptian Syntax," held at the University of Liège in May, 2011 (now published as Grossman et al. 2014), at which the three of us were participants. In conversations, we identified a number of desiderata for future research, prompted in part by the presentations and discussions at the conference. First, we felt the need for an extended conversation among those of us struggling to find new models of Egyptian grammar. Second, we realized that the conversation had to be focused on Earlier Egyptian, which still has the greatest degree of opacity in its verbal system and therefore the greatest need for new approaches to grammatical analysis. And third, we determined that the participants in the conversation had to contribute not just whatever interesting subject they might happen to be working on but thoughts about the core problems of working with Old and Middle Egyptian texts—not just the interpretation of written forms but also consideration of the broader, extra-grammatical factors that can influence the production of a written form in a given text.

From the mid-1960s until recently, studies of Egyptian grammar were dominated by the "Standard Theory" model based on the work of H. J. Polotsky. The attractiveness of that approach for the Earlier Egyptian verbal system derived largely from what seemed to be the relative transparency of syntax as opposed to morphology. Earlier Egyptian relies largely on contrasts in synthetic morphology to produce different verb forms, but the nature of the writing system obscures many of these: for example, the difference between the active and passive *sḏm.f*, both of which appear on the surface to be morphologically identical in many cases. Faced with this obscurity, Egyptologists have come to rely on whatever meager clues the writing system might provide to identify distinct forms, such as the different *sḏm.f* forms generally supposed to underlie the distinction between pairs such as *mꜣ.f* ~ *mꜣꜣ.f* "he sees," *mr.f* ~ *mrw.f* "he wants," and *ḏj.f* ~ *rḏj.f* "he gives." The "Standard Theory" afforded apparent confirmation of such distinctions by noting their affinity with certain syntactic environments. In addition, it offered a syntactic explanation for a number of visible but previously puzzling alternants such as non-"emphatic" *sḏm.n.f* versus *jw sḏm.n.f* (analyzed as dependent versus independent). By the late 1980s, however, some scholars had begun to doubt the validity of identifying verb forms as syntactically conditioned, and more recently, the value and genesis of certain written morphological indices have been called into question as well. At the same time, scholars increasingly began to draw attention to the influence of factors such as lexical semantics, pragmatics, and scribal practice on the textual production of verb forms and constructions, features neglected in the "Standard Theory" approach.

At the Liège conference it became evident that many, if not most, of the participants regarded the "Standard Theory" model as no longer productive, in part if not whole, for the analysis of Egyptian grammar, and in particular for its earlier stages, Old and Middle Egyptian. Having cut that anchor, however, we are now faced with the task of developing consensus on productive avenues of approach to Earlier Egyptian grammar, to guide our research in the twenty-first century.

The Brown workshop was intended to address that concern. The editors invited seven colleagues representing the current spectrum of thinking on Earlier Egyptian grammar, to engage in a three-day

discussion. We deliberately chose the term "workshop" rather than "conference" to emphasize the primacy of discussion over the presentation of research. Each participant contributed a preliminary draft of the paper in this volume beforehand and was allotted an hour and forty-five minutes at the workshop, with presentation slated to last no longer than thirty to forty-five minutes so as to allow ample time for discussion.

To focus the contributions and discussion, participants were asked to address three areas of fundamental concern. First is the role of the textual corpus itself, the dataset that forms the basis of all research into the grammar of Earlier Egyptian. The field still lacks good grammatical descriptions of all the genres within this corpus. Fundamental questions need to be addressed. What elements of linguistic form occur in actual texts? What kinds of functions do they perform, in what kinds of texts, in what frequency, and in alternation with what other elements of linguistic form? To what extent can formal features or constructions that are essentially limited to one genre be gerealized to the language as a whole, and if they are not broadly applicable, what determines their appearance in the genre for which they are attested? How do scribal, cultural, and other extra-linguistic factors determine the phenomenology of the diverse types of Earlier Egyptian as they present themselves to the modern interpreter, and how can these factors be taken into account in linguistic analysis of an often highly formal written record? Or, as one of the organizers put it, "what is it, after all, that we call Earlier Egyptian?"

Second is the nature of the written evidence. If not all written criteria can be regarded as grammatically significant and if, as the past three decades of research have shown, syntactic criteria can themselves be illusory, what parameters can we establish to identify verb forms? For example, is the presence or absence of a distributionally limited and highly variable feature such as the ending *–w* formally significant or not in a given form or environment, and how can we tell? If nominal, adverbial, or attributive function is not primary to the existence and use of verb forms and constructions, what governs their use? More broadly, how do the domains of the lexicon, morphology, syntax, and semantics interact with one another in the production of particular forms or constructions?

Third is the role of pragmatics. To what extent are forms and constructions determined by extra-grammatical factors such as the speaker's choice and style? To what degree is it possible to produce a pragmatic analysis of earlier Egyptian language data (and thus to engage ancient Egyptian language data with a more cognitive and indeed rationalist take on the human contribution to the production of meaning in language)? Do the surviving data, and the current understanding of the ancient cultural encyclopedia, provide a sufficient basis for such study or not?

In general, we intended the workshop as an opportunity to address the fundamental question of how we understand forms and constructions in terms of morphology, function, and (contextualized) meaning; to identify the successes and limitations of existing approaches; and to determine what productive new directions are open for future research. Each of the papers in this volume addresses these questions, some more directly than others. In their diversity, the papers demonstrate a common sense of the complexity of the empirical data, of the multiplicity and interrelatedness of relevant dimensions, and of the need for renewed and explicit interpretive strategies. They are illustrative not of a unified paradigm of ongoing research but of a multiplicity of approaches to Earlier Egyptian. To echo the title of the seminal 1986 Copenhagen conference (Englund and Frandsen 1986), the current situation may resemble "Chaos" after the (illusory) certainty of the "Standard Theory" but it is also clear that we stand on the threshold of, if not "A New Paradigm," a new understanding of Earlier Egyptian.

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The Syntax-Semantics Interface in Earlier Egyptian: A Case Study in Verbs of Cognition [1]

Jean Winand

A. Foreword

What we know about Earlier Egyptian essentially comes from studies in morphology and syntax.[2] We have so far witnessed different theoretical approaches: structuralism, the "Standard Theory" (and the "not-so-standard-theory," see Collier 1990, 1994), generativism, etc. Questions that have been haunting (some) Egyptologists' nights for decades (Vernus 1997; Winand 1998; Allen 2011a; Uljas 2011) remain largely the same:

- How can forms be mapped onto functions? Can one make a parallelism between the two? If so, should one adopt a strict isomorphic parallelism or looser, polymorphic (one-to-many) sets of relations?
- How far can we work with the principle of symmetry when reconstructing verbal morphology? Should a variation that can be observed in one verbal class (e.g. the 3ae inf.) automatically be accepted for (all) other classes? If not, this raises a serious question about our ability to reconstruct paradigms in Egyptian (and probably also about the very purpose of making paradigms).
- What are the limits of use of the principle of analogy? To what extent are the emphatic forms of Later Egyptian that are morphologically marked (although there are significant differences between Late Egyptian, Demotic and Coptic) useful for understanding how the system worked in Earlier Egyptian?[3] What can we infer about the verbal system in Earlier Egyptian from the fact that the emphatic forms in Later Egyptian are distinct from the pragmatically/enunciatively "flat" forms (*sḏm.f* vs. *j.jr.f sḏm*, ⲁⲩⲥⲱⲧⲙ̄ vs. ⲛ̄ⲧⲁⲩⲥⲱⲧⲙ)? To what extent does the existence of a form that is probably closest in Egyptian to a substantival form (*mrr.f*) have consequences for our analysis of the *sḏm.n.f* form? Is the parallel sufficient enough to accept that *sḏm.n.f* is a cover form at the graphic level for several morphologically distinct forms impossible to recognize because of the peculiarities of the hieroglyphic writing (critically Stauder 2014c–e and this volume)?[4] To take another viewpoint, what are the consequences, if any, of the existence of a Late Egyptian pattern specialized for sequentiality (*jw=f ḥr (tm) sḏm*) to how one should understand the morphology of the *sḏm.n=f* in Middle Egyptian?
- What use can be made of the negative (or passive) system when reconstructing the verbal paradigms of the positive (or active) forms? For instance, what can the opposition between passive *sḏm.w=f* vs. *sḏm.n.tw=f* tell us about the active *sḏm.n=f*?[5] What can we gain in our

1 My thanks are due to Stéphane Polis for fruitful discussions on semantic maps and on critical issues related to lexical semantics, and to Todd Gillen for his comments and for improving my English.

2 Curiously enough, the impact of pre-Coptic phonology, which apparently remains a German-speaking field, seems to be limited to grammarians dealing with the predicative systems of Earlier Egyptian (but see recently Allen 2013).

3 Such a bottom-up approach was instrumental in Polotsky's seminal study (Polotsky 1944).

4 Once more, this was seen as pivotal in the Standard Theory: different unwritten vocalic schemes were once supposed to match different syntactic functions (see Depuydt 1986; Satzinger 1987, 1988).

5 See most recently Stauder 2014a, 235–348, arguing that the nature of the morphological and semantic contrast in the passive in fact implies a single form in the active.

analysis of the positive *sḏm.n=f* from the opposition between *n sḏm.n=f* vs. *tm.n=f sḏm*? Probably not that much, as both patterns do not strictly commute on a syntactic level. For the sake of comparison, should one accept in Late Egyptian that there are two morphologically distinct subjunctives because they can be used with two different negations (*bn sḏm=f* vs. *tm=f sḏm*)? Most scholars would very likely disagree with such a view (Winand 1992 and 2006a).

- How far is an isolated example (or some isolated examples) representative of something that is systemically significant?

One issue that will probably still be dealt with in decades to come is how temporality was expressed in Ancient Egyptian. Elaborating upon previous studies (Winand 2006a, 2006b), I here present a case study suggesting that the calculus of time and aspect is the result of a complex web of relations:

- actionality (argument structure, and modifications thereof),
- the set of instructions given by the grammatical tenses,
- the written genres and the repertoires within the genres,
- pragmatic considerations (to a certain extent),
- universally shared cognitive schemas in expressing causality or describing event structures (in the sense of Winand 2000 and 2006a).

Another, in my opinion, related issue for a more fine-grained understanding of Old and Middle Egyptian is lexicography in relation to grammar, something that is known in the general literature as the semantic-syntactic interface (Levin and Rappaport Hovav 1997, Van Valin 2006). As is evident from the list given above, there is every reason to consider that the semantics of verbs constantly interact with grammatical tenses. This seems to be the case in any language, but it is crucially at the core of the functioning of languages that basically work within an aspectual system.

Thus, my answer to the general question raised by the organizers, which can be very broadly summed up as "How can we improve our understanding of Old Egyptian?," is: "by paying a closer attention to lexical semantics." This position was very recently advocated by James Allen (2011a, 5) in his reassessment of the *sḏm=f* form(s?) in Old Egyptian. Lexical semantics was also the central topic of a conference held in Liège in 2010 (see Grossman, Polis, and Winand 2012). Thus it seems that the idea is slowly making its way into Egyptology that lexemes are probably not some kind of flexible dough that can be freely used to flesh out some rigid syntactic skeleton.

I once again recently expressed my concern for the study of the relations between grammatical tenses and the verbal phasal aspect (also called Actionality, or, with a slightly different meaning *Aktionsart*) in a paper that was delivered in Leipzig in November 2012 at the conference *Das "Altägyptische Wörterbuch" und die Lexikographie der Ägyptisch-Koptischen Sprache* (but see already Winand 1999, 2003). In this paper, which was unequivocally entitled "A Dictionary, Please! The Leipzig Call," I argued that:

- a new dictionary is urgently needed in Egyptology;
- databases such as the TLA or Ramses (for Late Egyptian), no matter how useful they can be (and are, as a matter of fact), will never replace or be a credible substitute for a dictionary;
- quite to the contrary, text corpuses, which, in a sense, are doomed to experience a never-ending growth, will end up being out of control and beyond the reach of the majority of their potential users (Egyptologists who unfortunately turn out to be non-linguists, which seems to represent the majority of our community, and non-Egyptologists who take an interest in the study of language(s), who probably outnumber our small community).

A new dictionary—a very long-term project that cannot be realized outside the international cooperation of Egyptologists specializing in the study of texts and languages, joining forces with scholars who have an experience in dealing with lexicography, and of course with specialists in information technologies—should systematically provide, as regards the verbal lexemes, the argument structure(s) in relation to the grammatical tenses that verbs are actually used with. The study of verbs—but this is obviously also true for the other parts of speech—cannot be undertaken in isolation. The meaning of a verb, its capacity to enter a tensed paradigm, cannot be studied without considering the semantic web it belongs to. Taking the viewpoint of onomasiology is not something totally new in Egyptology (Spencer 1984, Vernus 1984a and 1984b, Cannuyer 1990, Gracia Zamacona 2008, etc.), but it remains largely underexploited (at least this has never been done systematically for any given stage of Egyptian), nor has it always been done within a sound theoretical framework.

The most promising avenues of research in this respect are of course lexical domains that do not belong to technical fields, where scientific terms or kinds of jargon are abundant.[6] In this paper, I take a few verbs of cognition as a case study. Since my point is essentially epistemological (and methodological), I have not confined myself to Earlier Egyptian *stricto sensu*. The corpus considered here is Earlier Egyptian *sensu latiore* (Old Egyptian, Middle Egyptian and Classical Egyptian) with some occasional extensions towards later stages (18th-Dynasty Classical Egyptian and earlier phases of Late Egyptian). Such an extended corpus is probably necessary to secure a sufficient amount of data to make hypotheses; it also introduces a temporal dimension that is needed for any tentative dynamic reconstruction of the semantic web of relations that will be discussed in this paper.

The general theoretical principles that underlie my research have already been presented in Winand 2006a, admittedly a difficult piece of work to grasp.[7] I thus take the present opportunity to briefly reassess its fundamentals.

B. Aspect and Actionality

In languages where grammatical tenses in autonomous sentences express aspectual relations,[8] the phasal structure of verbs plays a decisive role. As native speakers of (mostly) Romance or Germanic languages, we are accustomed to a system where all verbs can theoretically accept all grammatical tenses (this is well illustrated in the neat, gapless grammatical tables that inevitably go with school textbooks; this of course provides all the material needed by teachers to put their pupils in the most terrible torments).[9] Exceptions pop up precisely when aspect is at stake. In this respect, the restrictions of use (or the semantic shifts) one can observe when a progressive yense is used are particularly significant. In French, for instance, there is no progressive tense strictly speaking, that is, a tense that belongs to a ***regular*** grammatical system of

6 See some already-published specialized Egyptian lexica on fauna, flora, architecture, medicine, etc.

7 In Egyptology, there have already been some (limited) signs of interest in verbal *Aktionsart* (see, e.g., Loprieno 1984 or 1986, Hannig 1986, Vernus 1984a, 1984b, and 1990b); after the publication of Winand 1998, 2003, 2006a, and 2006b, see also Werning 2008a and 2011; for a practical application to some semantic classes of verbs, see Hafemann 2002.

8 In other syntactic environments (adjectival forms, nominal forms), there are cases of neutralisation, which should be considered only secondarily. As a matter of fact, specialization in meaning or in syntax (subordinate or relative tenses, passive tenses, emphatic forms, presence of a negation, etc.) must in a way be offset by a limited choice in the expression of aspect/time when compared to "flat" (positive, active, enunciatively neutral, syntactically autonomous) sentences.

9 My tender years in grade school were rhythmed by conjugating exciting verbs such as *moudre* in the imperfect subjunctive or in the passive simple past.

oppositions. The pattern "*il est en train de faire X*" (lit. "he is on his way to do X") can be used in some pragmatically constrained circumstances.[10] Among other instructions, it conveys the features [+DURATIVE] [+DYNAMIC] and [+AGENCY]. This explains why a sentence such as

[1] *Le livre est en train d'être sur la table* "The book is being on the table"[11]

sounds rather strange because the stative verb *être* is of course [+DURATIVE], but does not select an agent as its subject, and it is of course not dynamic. In this case, the use of *être* in the progressive is simply blocked in standard French. In some cases, a verb that does not exactly fit the instructions implied by a grammatical tense can nevertheless be used. In such cases, the price to be paid for or, if one prefers, the outcome of the negotiation between the two players (the verbal lexeme and the grammatical tense), is a modification of the aspectual selection made by the grammatical tense. For instance, in French, it is perfectly natural to have sentences such as

[2] *Il est en train de mourir* "He is dying."

Although the verb *mourir* in French, like its counterpart in many languages, is perceptually conceived of as [-DURATIVE], the progressive can be used. As the process itself, being non-durative, cannot be under the scope of the progressive, the pre-phase of the process has in this case been selected. This contrasts with a verb such as *courir*, which belongs to a much more common semantic class of verbs [+DURATIVE] [+DYNAMIC] [+AGENTIVE] [-TELIC]:

[3] *Il est en train de courir* "He is running."

Graphically, Ex. 3 can be represented like <~[~~~]~>, where the broken brackets < > represent the limits of the process and the square brackets [ ] the aspectual selection made by the grammatical tense, but Ex. 2 shows a different configuration (-[---]-<+>——).[12] As is clear from the graphs, while the aspectual selection stands inside the limits of the process in Ex. 3, it is outside the process *stricto sensu* in Ex. 2. From these two simple examples, one cannot escape the conclusion that verbs have different phasal configurations. *Mourir* has a pre- and a post-phase (the latter one can be accessed to by a stative tense, like the old perfective in Egyptian), but *courir* has no pre- nor post-phase. If one intends to select the phase that immediately precedes the process of *courir* in French, one has to say something like

[4] *Il est sur le point de courir* "He is on the verge of running" and "He is about to / going to / ready to run" and the like.

Of course, languages do not always work in such a simple, straightforward way. The default phasal configuration of a verb can be modified when the argument structure is changed. For instance, it is possible to assign a goal to the process of *courir* by adding an adjunct like *à la poste* (to the post office).[13] Such an

10 It is perfectly natural in French to use the simple tense to answer the question *Que fais-tu ?* "What are you doing?" The "progressif" will be used rather to stress the activity the subject is engaged in, or to make the point clearer (*Mais qu'est-tu donc en train de faire ?*).

11 Of course, a formulation like "the book is lying on the table" is perfectly acceptable in English, but a sentence such as *le livre est en train d'être couché sur la table* fails the test in French, which shows that the two progressives do not share exactly the same semantic traits.

12 For the graphs used to represent the selection made by an aspectual tense, see Winand 2006a.

13 On the possible modifications of the verbal actionality by way of valency augmentation/diminution, see Winand 2006a, 122–34.

extension recasts *courir* in another class, that of the telic verbs. The change of class (recategorisation) is made visible in these contrastive examples:

[5] a *Il a couru pendant 20 minutes* "He ran for 20 minutes"
b *Il a couru à la poste en 20 minutes* "He ran to the post office in 20 minutes"
c? *Il a couru à la poste pendant 20 minutes* "He ran to the post office for 20 minutes"
d *Il a couru en 20 minutes* "He ran in 20 minutes."

In 5c, the presence of a temporal adjunct expressing a span of time is a bit awkward, though not impossible (there is hardly anything that cannot be said with an appropriate context!) if one intends to say that the subject ran for twenty minutes but did not succeed, for whatever reason, in reaching the post office. Ex. 5d seems at first sight to be close to Ex. 5a. Actually, Ex. 5d cannot be understood without supplying a goal that has been omitted under pragmatic relevance. With *courir*, the implied goal can be a prepositional phrase (PrepP) such as *à la poste*, but another argument structure is also possible, such as a direct object, as in *courir les 10 kilomètres* (cf. *to run the mile/marathon*).

The preliminary conclusions that can be drawn are as follows:

- some grammatical tenses give aspectual instructions;
- these instructions consist of selecting a phase of the process;
- all verbs have a phasal structure;
- there are different basic phasal structures that can be defined by a limited set of criteria (the most important and, as it seems, probably universally attested are durativity, telicity, dynamicity, agency);[14]
- change(s) in the argument structure can modify the basic phasal structure of a verb;
- although there are some general, maybe universal, tendencies, the instructions given by grammatical tenses must be appreciated for any individual language: for instance, the English progressive and the French "progressive" do not share exactly the same semantic field ("The man is standing in the street" is perfectly acceptable in English, but the corresponding *L'homme est en train d'être debout dans la rue* is definitely odd in French);[15]
- the same conclusions apply to the phasal structure of the verbs: there is no direct correspondence between a French verb and its "correspondent" in another language, as will be exemplified in the case study (as has been demonstrated, languages with an aspectual system often "compensate" for the relative numerical poverty of their verbal lexemes by being able to select phases that would be distributed to different lexemes in temporal systems;[16] we will have to come back to this in our case study);
- as a consequence of the preceding statement, the way languages classify processes can vary. For instance, Egyptian *gmj* as a verb of cognition only means "find, discover" (see now Vernus 2012); it does not seem possible to access the phase preceding the process of finding, that of getting knowledge, as is possible for instance in French (*il est en train de trouver la réponse*). In Egyptian, this phase is expressed by other lexemes such as *wḫ3*, *ḥḥj*, or *ḏr* (see below).

14 For a definition of these terms, and their relevance for the structure of Egyptian verbs, see Winand 2006a, 53–68.

15 The feature [+ DYNAMICITY] is part of the definition of the Egyptian progressive (Winand 2006a, 265–68, 286–88), which can have an influence on the selection of the subject. This property is of course not automatically shared by all languages that have a progressive in their tense system.

16 This of course has a direct impact on how dictionaries are made.

Classifying verbal lexemes according to their phasal structure is admittedly a difficult, but not impossible, task. The main objection one is most faced with in the specialised literature is that it would be impossible to decide what the basic configuration is. For instance, for *courir*, it would be a matter of discussion to decide whether *il court* is more basic than *il court vers X*. In the first case, the second sentence must be analysed as an extension of the argument structure, but if one takes it the other way around, the basic structure is the bivalent one, and the first sentence, which must then be seen as a secondary development, is to be analysed as a case of valency reduction. I must confess that this kind of *disputatio* reminds me the Byzantine discussions on the gender of the angels. Actually, the whole argument can be circumvented. In my theoretical framework, I chose to select the best represented structure as the basic one on a statistical basis. Then one has only to determine to what extent the argument structure can be modified, and which effect(s) these changes can trigger. The most important point is to set a clear starting point whence it is possible to derive the other argument patterns. To put it another way, it does not really matter whether one decides that *courir* is primarily a telic bivalent verb that can be made atelic by the suppression of its second argument (*courir vers la poste*, *courir le marathon* > *courir* ø) or vice-versa. Thus, everything being equal, I opted for the configuration that is the most common, the most widely attested (as far as synchrony is concerned, diachrony can help to determine the historical extensions of an argument structure). This basic configuration can of course change over time. For instance, *pḥ* "reach" is transitive in Earlier Egyptian, but was treated like a verb of motion from Late Egyptian onwards, which prompted a change in the argument structure (*pḥ* noun phrase (NP) > *pḥ r* NP; see Winand 1999).

In defining the phasal structure of a verb, I consider the following features:

- the argument structure, that is the number of arguments (1, 2 or 3, more exceptionally 4), their form (definite/non-definite; singular/plural), their place on the scale of animacy, their semantic role (patient, experient, undergoer, etc.);
- the combination with the grammatical tenses that are aspectually marked;
- and the combination with temporal adjuncts that pass for diagnostic of an aspectual value, even if this must be interpreted with caution (Winand 2006a, 53–63).

To this, one must add, in a second step, the interaction of the verbal lexeme under consideration with the other verbs that belong to the same semantic web (onomasiological viewpoint). At the end of the process, one can expect two major results: (1) a classification of the verbal lexemes into semantic classes of actionality, (2) a better understanding of the verbal system.

For (1), the classes of actionality are defined according to a limited set of semantic features (Winand 2006a, 106–107):

- durativity
- dynamicity
- telicity
- agentivity.

Any process has a limited number of aspectual phases. Prototypically, a process extends over a certain timespan [+ DURATIVE] and expresses an activity [+ DYNAMIC], which normally implies that its subject is an agent that has full or some control of the process; this activity is ordinarily oriented towards the achievement of a goal [+ TELICITY], which means that the situation that prevails when the process ends is different from what it was before it started. This new, resultative situation, the post-phase of the process in

my terminology, is generally perceived as static.[17] In some cases, the phase that immediately precedes the process is perceived by the linguistic community as having a cognitively significant adherence to the process. This pre-phase, to follow my terminology, can also be accessed via a grammatical tense marked for aspect (see Ex. 2). Graphically, a generic process can be represented as follows:

<~~~~~~+>———

with < > setting the limits of the process
~~~~~ suggesting dynamicity, as opposed to ——, which expresses stativity
\+ being the sign for telicity.

A process such as <~~~~~~+>——— is usually called an accomplishment in the specialized literature. In Egyptian, this category is well represented by very common verbs such as *jrj* "do," or *jwj* "come." It turns out that the classification of actionality does not necessarily match the syntactic distinction between transitive/intransitive. Both verbs are dynamic, durative and telic; but the change of situation is evaluated from the point of view of the second argument (the direct object) in the case of *jrj* (there was no X before the process started, and there is an X when the process is completed), and from the point of view of the subject in the case of *jwj* (A has moved to another place at the end of the process). This does not imply, of course, that diathesis is grammatically non-relevant in Egyptian, as it explains why *jw jr.n=f sw* is used in the first case, and *jw=j jj.kwj r* X in the second case (see the difference in the selection of the auxiliary [*être*/*avoir*] in French for the present past: *il* ***a*** *fait X* vs. *il* ***est*** *venu à X*, a distinction that was lost in English "he has done it" vs. "he has come to X").[18]

Arranging classes of actionality according to the criteria that have been selected amounts to making a taxonomy. Although all taxonomies have a familiar look, it follows as a consequence of what has been said above about the irreducibility of the processes that lead to the formation of the lexicon across languages, that all possible classes of actionality are not equally relevant for every language. In Winand 2006, 106, I proposed a taxonomy that claims validity above all for Middle Egyptian. A class of actionality can be considered valid for a given language if it has semantic properties that make it different from other classes **and** if it accordingly displays a distinctive grammatical behaviour. This claim is consistent with the semantic/syntactic hypothesis. If a semantic class meets only the first criterion, it probably will deserve an entry in a dictionary, but it clearly has nothing to do with actionality in the sense intended here. For instance, in the general class [verbs of movement], which—it should be noted—does not constitute a homogeneous class of actionality in Egyptian, one could set apart movements that require the help of a vehicle (drive, fly, surf) or movements that process along a horizontal line (run, walk) as opposed to vertical movements (jump, fall, ascend, etc.), etc. If these sub-classes do not behave grammatically in significant different ways, the inescapable conclusion is that they do not constitute classes of actionality in their own right.

For (2), grammatical tenses (or some constructions outside the grammatical system of oppositions) that are aspectually marked make a selection in the phasal structure of the verb. The following cases are such theoretically possible selections (once again taking as a starting point the class of accomplishments):

<~[~~~~]~+>——— progressive imperfective ("he is/was/will be doing X")

17 Processes with a dynamic postphase exist in many languages. This is the case in Egyptian for a well-known verb, *šmj*, which can take the meaning of walking in the Old Perfective (Winand 2006, 231–33).

18 The distinction was still retained into the 19th century in some literary texts. Compare Matt. 21:10: "when he was come into Jerusalem" (King James version) and "when he had entered Jerusalem" (New American Standard Bible).
~~~~~

<~~~~~~+>[——[— resultative perfective ("he has/had/will have done X")
[<~~~~~~+>]——— global imperfective ("he does/used to do/will do X")
<~~~~~[~+>]——— momentaneous perfective ("he did X")[19]
[ ]<~~~~~~+>——— mellic ("he is/was/will be about to do X").[20]

The ways individual languages can formally express such aspectual selections vary to a great extent. Some languages exclusively rely on auxiliaries or specialized expressions to do the job. In others, such as Classical Egyptian, the grammatical tenses are deeply involved. In between, there are languages (such as French or English) that combine grammatical tenses and other, more lexically oriented, means.

As has already been said, the instructions given by a grammatical tense do not blindly apply to any class of actionality. The "negotiations" can end up in only three possibilities:

- a complete harmony between the two protagonists: for instance, the use of a progressive with an accomplishment;
- a compromise between the grammatical aspect and the verbal phasal aspect: for instance, the use of resultative tense, such as the Old Perfective, with an atelic verb such as *sḏm* in Egyptian, which triggers a semantic shift (from "hearing" to "listening to, taking into account"; see Winand 2006, Ex. 275);
- the absence of a solution for combining the two (as in Ex. 1, where a stative verb normally resists a progressive in French), which is admittedly rare cross-linguistically, since languages usually display a wealth of inventiveness in this respect.[21]

In my opinion, it is as important to show which combinations are actually attested in our material (with the corresponding intended meanings) as to state what is not attested and for which reasons. As is well known, an absence can mean as much as a presence. As will be demonstrated in the case study below, the impossibility of combining a verb with a given tense marked for aspect can be attributed to two main reasons: first, there is no compatibility between the phasal aspect of a verbal class and the aspectual instructions of a grammatical tense (this is the third outcome listed above); second, this has to do with the structure of the lexicon in the language under consideration (two phasal aspects of what would have been considered a single process in another language have been distributed over two distinct verbal lexemes: cf. the *wḫꜣ* – *gmj* distribution).

C. The Case Study

As a case study, I selected verbs of cognition that are closely related. They can be divided into two main groups: verbs of knowing (*rḫ*, *sjꜣ*, *šsꜣ*), and verbs of searching (*wḫꜣ*, *ḥḥj*, *ḏ‹r*, and, to a lesser extent, *ḫꜣj*). The following points will be systematically considered:

- the argument structure in correlation with the grammatical tenses,
- the system of classifiers,
- the onomasiological viewpoint: i.e., the synonyms and semantically related verbs that are found in the immediate context (i.e., in the same sentence or in the preceding/following sentence).

19 Pragmatically most often confined to past situations, but not obligatorily so.

20 For this term (which should not be confused with prospective, a term that is best avoided in discussions on aspect), see Winand 2006a, 175.

21 I of course did not succeed in finding an example of *wnn* or *mn* in the progressive in Earlier Egyptian.

The following results are expected:

- defining, for each verb, all its attested meanings using semantic primitives,[22]
- discovering the correlations between meanings and argument structures/grammatical tenses,
- discovering the semantic bridges between meanings,
- organizing the meanings of the verbs under consideration in a coherent semantic map.

As already noted in the Introduction, the corpus considered here is Earlier Egyptian (Old and Middle Egyptian), with occasional examples coming from the New Kingdom (mainly 18th Dynasty) "égyptien de tradition."

1. **Verbs of knowing**

Three verbs are considered here: *sjꜣ*, *rḫ*, and *ššꜣ*.

a. ***sjꜣ***

The verb *sjꜣ* is attested from the Old Kingdom onward until the New Kingdom, where it became limited to religious texts. It usually takes as classifiers: nothing in Old Egyptian, in Middle Egyptian and during the New Kingdom, with occasional additions of or . It is consistently written with the sign (S 32), which depicts a piece of fringed cloth.

The *Wb*. suggests the following translations: "erkennen," "Kenntnis haben von etwas"; when browsing the data collected in the TLA, one can find the following translations: "(an)erkennen," "kennen," "zur Kenntnis nehmen," "bewusst sein," "verstehen," "durchschauen," "weise sein," "erwählen," "ertappt/identifiziert sein," "einen Eindruck von etwas gewinnen," "nachdenken," "beschreiben."

Considering the available data for the period of time beginning with the Old Kingdom and ending with the 18th Dynasty, one can make the following observations.

The verb *sjꜣ* can be roughly translated[23] "reconnaître" ("recognize").[24] In Egyptian, one can distinguish four main senses of "reconnaître." I review them in what probably mirrors the diachronic evolution of this lexeme.

> ***sjꜣ* 1**: "reconnaître 1": x EXISTS; A ALREADY KNOWS x; A IS ABLE TO RECOGNIZE x WHEN MEETING/SEEING x AGAIN.[25]
>
> In this sense, *sjꜣ* is attested from the Old Kingdom onward. The argument structure is always A[ANIMATE] Vb X[(IN)ANIMATE]. This sense is very strongly connected with the domain of PERFECTIVITY;[26] the following tenses are attested: *perfectif sḏm=f*, *accompli sḏm.n=f* with resultative

22 The system of semantic primitives used in this paper mainly relies upon Wierzbicka 1996 and Goddard 2002.

23 As will become clear in the following pages, I do not believe, in synchronic terms, in something like "the basic meaning," from which all attested meanings could be ultimately derived. But for pedagogical uses (and also in dictionaries), one cannot minimize the interest of suggesting a global translation.

24 In this study, I will give French translations first, not so much for my personal comfort, but because as this is a semantic study, I expressly want to avoid any kind of misunderstanding coming from approximate translations in a language to which I do not belong as a native speaker. The purpose of the English equivalent given in parentheses is to supply some help for those who are not too well acquainted with French.

25 Here I take "recognize" as a semantic primitive for the sake of brevity. Actually, "recognize" can be analysed in more primitive traits such as x EXISTS, A ALREADY KNOWS x, A SEES THAT x IS x.

26 To avoid ambiguities (Winand 2006a), I use small caps for semantic designations (PERFECTIVE, IMPERFECTIVE, PROGRESSIVE, etc.) as opposed to lower-case letters for grammatical tenses (*accompli*, *inaccompli*, progressive, etc.). As regards grammatical tenses, I keep the French terminology as presented in Winand 2006a.

meaning, *accompli momentané sḏm.n=f* (with punctual meaning in narrative), relative form of *accompli* (*sḏm.w.n=f*) and the pattern *n sḏm.n=f*.

sjꜣ 1 is used in collocation with verbs such as *mꜣꜣ* and *rḫ*, expressing acquisition of knowledge or possession of knowledge. The following examples nicely show that the subject has a previous knowledge of what he is subsequently able to recognize:

[6] *mꜣ.n sw ḫnmm.t, sjꜣ.n sw mskt.t* (Pyr. 335a–b T)
le peuple solaire l'a vu, la barque-*mskt.t* l'a reconnu ("the solar people have seen him, the *mskt.t*-boat has recognized him")

[7] *n ḏd=j grg r kj, rḫ.kwj nṯr jmj rmṯ, sjꜣ=j sw* (Urk. IV, 119, 14–16)
je n'ai proféré de mensonge contre quiconque, connaissant le divin qui est en l'homme, je l'ai reconnu ("I have not said a lie against anyone, knowing the god that is in men; I have recognized him")

***sjꜣ* 2**: "reconnaître 2": x EXISTS; A DOES NOT KNOW x; A IS ABLE TO RECOGNIZE THAT x BELONGS TO X, or THAT x = x.

In other words, the subject, who did not have previous knowledge of x, is able to recognize that x is a member of the class X, or—but this is a specialization of the general case—that x is truly x (the class X being in this case reduced to one member).

In some cases, especially in the Old Kingdom, *sjꜣ* 2 can take on the meaning of "tenir compte, prendre en consideration" ("take into account, take into consideration"): one recognizes that x, being what it pretends to be, deserves consideration:

[8] *jw sjꜣ md.t n.t mḏꜣ.t tn jrj.t.n=k ḫr nswt r jz.t r rdj.t rḫ.t(j) wnt=k ḥꜣ.t(j) m ḥtp* (Urk. I, 128, 5–8)[27]
on a tenu compte du texte de cette lettre que tu as faite par devant le roi pour le palais afin d'informer que tu es descendu en paix ("one has taken account of the text of this letter you made under the king to the palace to let it be known that you have come down in peace")

Often, there is an adverbial extension indicating how the subject is able to recognize x.

The aspectually marked grammatical tenses that are attested with *sjꜣ* 2 belong equally to the PERFECTIVE (imperative, passive of *accompli*, *accompli sḏm.n=f*) and the IMPERFECTIVE domains (*inaccompli général sḏm=f*, *mrr=f*, participle of *inaccompli*, infinitive):

[9] … *sjꜣ.n nswt ḫr rs-tp=f* (Cairo CG 20764, x+3)
… que le roi a discerné (reconnu) en raison de sa vigilance ("… whom the king has recognized because of his vigilance")

[10] *sjꜣ=j sw [r-jḫ pꜣj=j nḫt]* (Helck 1975, 83: Kamose Stela I, 3)
à quoi la reconnaîtrai-je ma victoire? ("how shall I recognize my victory?")

[11] *sjꜣ ms.t(j).sj m jd.t n.t jwr.t* (Griffith 1898, pl. 6: pKahun 3, 2)
reconnaître celle qui doit enfanter dans la vulve de quelqu'une qui est enceinte ("distinguishing who will give birth in the vulva from one who is pregnant").

***sjꜣ* 3**: "reconnaître 3": x EXISTS; A DOES NOT KNOW x; BY EXPERIENCING, A GETS TO KNOW x.

In this sense *sjꜣ* is attested in the Middle Kingdom and the New Kingdom. It is of course very close to *rḫ* 2 "get to know" (cf. below). In this configuration, the argument structure shows a predilection for

27 See Eichler (1991, 152–55).

A[animate] Vb p; p can be grammatically expressed by an autonomous sentence, or by a sentence introduced by *wnt* or *ntt*. The grammatical tenses almost always belong to the domain of the PERFECTIVE:

[12] *sjꜣ.n ḥm=j wnt nn jr.tj=fj st nb ḫr-ḫw=k* (Sethe 1928b, 70, 24 – 71, 1: stela of Ikhernofret, 9)
car Ma Majesté a acquis la conviction que personne à part toi ne pourrait faire cela (“for My Majesty is now fully convinced that nobody but yourself could do this”)

[13] *sjꜣ=f pw N wrš ṯz* (CT VI, 246p–q)
c’est qu’il se rend compte que N passe son temps à attacher (“it means that he realises that N spends his time knotting”)

[14] *rḫ.n{n}=sn jnk nb=sn, sjꜣ.n<=sn> jnk wtṯ (ṯw) jmn-rʿ sꜣ.t(=j)* (Urk. IV, 346, 3–7)
ils ont découvert que j’étais leur maître, ils ont reconnu que c’est moi, Amon Rê, qui t’avais enfantée, ma fille (“they have learnt that I am their lord, they have realised that it was me, Amun-Ra, who created you, my daughter”).

***sjꜣ* 4**: “reconnaître 4”; x EXISTS; A ALREADY KNOWS x

In this sense, *sjꜣ* is of course very close to *rḫ* 1 “to know” (cf. below). It is only attested as a participle in the *accompli*:

[15] *jb sjꜣ jmj ḥ.t, rḫ N pn, m ḫm sw* (CT VI, 399u–v)
ô cœur qui (re)connaît ce qu’il y a dans le corps, apprends à connaître ce N, ne le néglige pas! (“O heart who recognises what is in the body, try to know this N, do not neglect him!”)

[16] *nb sjꜣ sjꜣ rḫy.t sjꜣ=f m ḥm n stp-sꜣ wnt bꜣk-jm snḏ ḏd st* (Sin. B 214–15)
maître de science, qui connaît les sujets, il savait, dans la majesté du palais, que cet humble serviteur avait peur de le dire (“lord of wisdom who knows his folk, he knew in the majesty of his palace that this humble servant was afraid of saying it”).

The following preliminary conclusions can be drawn:

- as regards the grammatical tense system, the tenses that belong to the sphere of the PERFECTIVE largely prevail (30/36 in my corpus);
- *sjꜣ* is never attested with a tense that expresses some kind of dynamic durativity (*inaccompli progressif*); *sjꜣ* can be contrasted with *rḫ* in this respect, which can be—albeit very rarely—used in the progressive (cf. below);
- since the recognition of somebody or something is most often done by some kind of visual activity, *sjꜣ* is close to the semantic field of the verbs of seeing, such as *gmḥ* or *mꜣꜣ*;
- the classifiers suggest that *sjꜣ* was first perceived as a mental activity ( ); the other classifiers (or) are attested later.

Thus *sjꜣ* seems to express the instant recognition of something, a kind of flash memory. There is no process that leads to the state of knowing. The *sḏm.n=f* can focus on the resultative state of the process, which makes *sjꜣ* close to *rḫ* in this respect. In my system of graphic representation of actionality, the phasal structure of *sjꜣ* can be captured as <+>——.

b ***rḫ***

The verb *rḫ* is well attested from the earliest records. If written with a classifier (spellings without a classifier are well represented), it usually takes the papyrus roll ().

The *Wb*. suggests the following translations: "wissen," "kennen," erkennen"; in the TLA, one can find the translations "wissen," "kennen," erkennen," "erfahren," "bekannt sein," "kennenlernen," "lernen."

Considering the available data, the following observations can be made.

***rḫ* 1:** "connaître": x EXISTS, A KNOWS x.

The argument structure is most often A[animate] Vb X[(in)animate]; the second argument can also be a bare proposition or a proposition introduced by *wnt* or *ntt* (for the different types of complementation, see Uljas 2007a):

[17] *jw ḥm ḥm(=j) rḫ mrr=k ḏd ḫ.t nb(.t) mrr.t ḥm(=j)* (Urk. I, 180, 1)[28]
Ma Majesté sait de fait combien tu aimes dire toutes choses que Ma Majesté aime ("My Majesty actually knows how much you like to say all that My Majesty likes")

[18] *jw=k rḫ.t(j) ntt ḏd.n PN r zꜣ=f* (Chicago Letter to the Dead OIM 13945, 1)[29]
tu sais que PN a dit à son fils ("you know that PN said to his son").

The second argument can sometimes be omitted;[30] in this case, *rḫ* expresses the mere situation of knowing:

[19] *jnk rḫ n nty n rḫ=f* (stela of Antef, BM 581, B 11)[31]
je suis quelqu'un qui sait pour celui qui ne sait pas ("I am one who knows for him who does not know").

In one example, the argument structure has a PrepP extension (*r* + NP), which triggers a different shade of meaning (A makes a distinction between X and Z: lit., A knows X rather than Y):

[20] *ḥꜣtj=j n ntf m ḫ.t=j rḫ=j ꜥnḫ r mwt* (Sin. B 255–56)
mon cœur, il n'était plus dans ma poitrine au point que je puisse (encore) distinguer la vie de la mort ("my heart, it was not in my chest (anymore) so that I could know life from death").

As regards the grammatical tenses, tenses that belong to the PERFECTIVE largely prevail: (subject +) old perfective, *accompli* participle in adjectival predicate, *n sḏm=f*, *accompli* relative form (*sḏm.w.n=f*), perfective *sḏm=f* (in the Pyramid Texts only, except in two cases, which could be explained as a participle as well)[32], and subjunctive:

[21] *j.rḫ=j sw rꜣ pn n Rꜥ* (Pyr. 771a P)
je la connais, cette formule de Rê ("I know it, this spell of Ra")

[22] *j(w)=k rḫ.t(j) jj(=j) n=k ꜥꜣ ḥr wḏꜥ-mdw ḥnꜥ A B* (Gardiner and Sethe 1928, pl. 1, 10)
tu sais que je suis venu ici à toi à cause du procès avec A et B ("you know that I have come here about the case with A and B")

28 See Eichler 1991, 149–52.

29 See Gardiner 1930, 19–22.

30 The omission of an argument must not be confused with omission under relevance, which does not affect the actionality of the process (see Winand 2004; 2006a, 125).

31 See photographs in Simpson 1974, pl. 12, and Parkinson 1991, 62.

32 *jnk ꜣḫ šps jqr, rḫ(=j)/rḫ(.w) ḫ.t* "je suis un esprit vénérable et excellent, je connais les choses (ou "qui connaît les choses")" (Hassan 1975, III, Fig. 39, 6: Tomb of Heri-Meru, front wall, 5). A similar situation can be observed in the Tomb of Ij-en-Hor (Hassan 1975, III, Fig. 33, 6: architrave): *jnk jgr ꜣḫ [...] rḫ(=j)/rḫ(.w) ḥkꜣ jw rmṯ rḫj jnk [...]* "je suis aussi un esprit […] je connais/connaissant la magie et les gens savent que je […]." Cf. also Cairo CG 20543, A 10–11, where the sentence *jḫr rḫ=s jqr s.t-ꜥ(=j)* "as she knew the excellence of my action" could be segmented *jḫr rḫ s(j) jqr s.t-ꜥ(=j)*, i.e., an adjectival predicate.

[23] *jw=j rḫ.kwj rn=j, n ḫm=j sw* (CT VI, 176g)
je connais mon nom, je ne l'ignore pas ("I know my name, I am not ignorant of it")

[24] *rḫ ṯw tr ḏd mrr.t ḥm(=j) r ḫ.t nb.t* (Urk. I, 179, 17)
tu sais par nature dire ce que Ma Majesté préfère plus que tout ("you know by nature how to express what My Majesty likes above all")—This example should be contrasted with Ex. 17 from the same letter (adjectival predicate *vs*. subject + Old Perfective)[33]

[25] *n rḫ pjpj pn mw.t=f tp.t rḫ.t.n=f* (Pyr. 1428d P)
Ce Pépi ne connaît plus sa première mère, qu'il connaissait ("This Pepi does not know (anymore) his first mother that he knew")

[26] *sm.n=j ḫm.n(=j) mj rḫ.n(=j) n-mrw.t nfr rn(=j) m r(ꜣ) n tp(j).w-tꜣ* (Cairo CG 20543, A 15–16)
si j'ai nourri celui que je ne connaissais pas comme celui que je connaissais, c'est afin que mon nom soit excellent dans la bouche de ceux qui sont sur terre ("I fed him whom I did not know like him whom I knew so that my name be perfect in the mouth of those who are upon earth").

The semantic sphere of the IMPERFECTIVE is represented by the *mrr=f*, and probably once by the *inaccompli général sḏm.f*; in the former case, because of the syntactic environment (PrepP), the aspectual opposition between PERFECTIVE and IMPERFECTIVE is neutralized:[34]

[27] *n-zp jw.t ḫ.t nb.t jm(=j) n.t ḫsf n-ꜥ.t-n rḫ(=j) ḫ.t* (*TPPI* § 20, 6–7)
il ne s'est jamais produit quelque chose à cause de moi méritant punition, tant je savais les choses ("nothing ever happened because of me that would deserve punishment as I knew so many things").

[28] *ḥs.tw=j ḥr rḫ=j m-ḫt rnp.wt jn nty.w r sn.t r jr.t.n=j* (Urk. IV, 58, 2–3)
je serai loué pour ma connaissance à travers les ans par ceux qui imiteront ce que j'ai fait ("I shall be blessed for my knowledge through the years by those who will imitate what I did").

The same effect obtains when the *mrr=f* is used as complement of another verb, in this case the verb *rḫ* itself; one will note that the second argument has been omitted:

[29] *n tkk.n sw rḫ.w rḫ=f* (Merikare E 33–34)
ceux qui savent qu'il sait ne peuvent l'agresser ("those who know that he knows cannot hurt him").

In the final case, the *inaccompli général sḏm=f* is used adverbially, expressing a contrast between someone who is ignorant although he should know; once again, there is a neutralization of the aspectual opposition:

[30] *nn km.n bw nfr n ḫm rḫ=f* (Amenemhet, Ve)[35]
"Le bienfait de/pour celui qui ignore alors qu'il devrait savoir ne saurait aboutir (se concrétiser)" ("a good thing of/for him who ignores although he should know cannot be realised").

33 Cf. *jn tr rḫ.w(j) ṯw jr.t mrr.t ḥzz.t nb=k* "comme tu sais bien—n'est-ce pas?—faire ce que ton maître apprécie et loue?" (Urk. I, 129, 5).

34 See also: *m ꜥꜣ jb=k ḥr rḫ=k* "ne t'enfle pas la tête parce que tu sais" (Ptahhotep 52), which should be contrasted with Ptahhotep 178–79: *jmj=k ꜥꜣ jb=k r.f ḥr rḫ.t.n=k jm.f ḫntw* "tu ne dois pas être prétentieux contre lui à cause de ce que tu as appris à connaître de lui précédemment," where the presence of *ḫntw* shows that *rḫ.t.n=k* has the meaning of *rḫ* 2 "to get/obtain knowledge of" (cf. below).

35 The fact that the classifier has systematically been added after *rḫ=f*, and that *rḫ=f* never presents a feminine ending in the surviving manuscripts, casts some suspicion on the analysis of *rḫ=f* as a relative form.

The contrast between *rḫ* 1 "savoir" and *rḫ* 2 "apprendre à connaître" is evident in examples such as the following one:

[31] *r[ḫ.n=j ṯ]w[t šps] wrt [n=]j [m] jšs.t sk ḥm ḥm=j rḫ wnt* P (Brovarski 2001, pls. 31–32, A2, 7–8)
j'ai réalisé pourquoi tu étais quelqu'un de très utile pour moi étant donné que ma Majesté sait que P ("I have come to know why you are so useful for me, as My Majesty knows that P").

***rḫ* 2**: "apprendre à connaître": x EXISTS, A GETS KNOWLEDGE OF x BY EXPERIENCE.

The argument structure is most often A[animate] Vb X[(in)animate]; the second argument can also be a bare proposition or a proposition introduced by *wnt* or *ntt*, but this seems less common than it is for *rḫ* 1:

[32] *j.rḫ šsp=k n=k ḥtp=k-nṯr pn* (Pyr. 771a P)
apprend que tu vas recevoir cette offrande divine ("know that you will receive this divine offering of yours")

[33] *ḏd bꜣk-jm dj(=j) rḫ PN wnt jqdw n spr.t=f r* GN (Pantalacci 1998, 307: T. Balat 3686)
je fais en sorte que PN sache que le maçon n'est pas encore arrivé à GN ("I inform PN that the builder has not arrived yet at GN").

The second argument is never omitted, which contrasts with *rḫ* 1, where this is far from exceptional.

In syntactically autonomous sentences, the meaning "apprendre à connaître" obtains with the *sḏm.n=f*. This contrasts with the use of the perfective *sḏm=f* (Pyramid Texts) and Old Perfective (Old Kingdom, except for Pyramid Texts), which has been observed for *rḫ* 1. When the *sḏm.n=f* is used with *jw*, the difference can be very tiny when compared with *jw* + subject + Old Perfective:

[34] *jw rḫ.n(=j) ḥkꜣ nb štꜣ n ḫn [...] m ḫr.t-nṯr* (Kanawati 2007, pl. 29, 54 and 75b: Tomb of Ibj, offering chapel, East wall, main inscription, l. 5)
j'ai appris à connaître toutes les formules magiques secrètes de la Résidence […] dans la nécropole ("I have learnt all the magic spells of the Residence … in the necropolis")

[35] *rḫ.n=f qd=j* (Sin. B 32)[36]
il avait appris à connaître mon caractère ("he had got knowledge of my character").

In some examples, the reasons or means by which knowledge has been acquired are given:

[36] *rḫ.n(=j) ḥm mrr w(j) Rᶜ ḥr rdj.t=f n(=j) ṯw* (Urk. I, 180, 7)
j'ai réalisé que Rê me chérissait parce qu'il t'a donné à moi ("I have fully realised how Ra loves me because of his giving you to me")

[37] *r[ḫ.n=j ṯ]w[t šps] wrt [n=]j [m] jšs.t sk ḥm ḥm=j rḫ wnt* P (Brovarski 2001, pls. 31–32, A2, 7–8)[37]
j'ai réalisé que/pourquoi tu étais quelqu'un de très utile pour moi étant donné que Ma Majesté sait que P ("I have come to know that you are extremely useful for me, seeing that My Majesty knows that P").

The same meaning also obtains with constructions that imply the reaching of a goal (*r/n + sḏm.t=f, r* + infinitive, imperative, exhortative construction):

36 See also *TPPI*, § 20, 6: *ᶜḥᶜ.n rdj.n=f n(=j) nn rḫ.n=f jqr s.t-ᶜ=j* "alors il me donna cela parce qu'il avait appris à connaître l'excellence de mon action"; Sin. B 107: *mr.n=f wj rḫ.n=f qnn=j* "il s'enticha de moi parce qu'il avait reconnu à quel point j'étais brave."

37 See Eichler 1991, 142–45.

[38] *wḫd=k ỉ wj r ḫpr.t zp=j r rḫ.t=k sḫr.w[=n]* (Fowler 38–39)
puisses-tu me prendre en pitié jusqu'à ce que mon moment favorable survienne, jusqu'à ce que tu connaisses [nos (?)] conditions ("O may you pity me, until my good fortune exists, until you know [our (?)] state")[38]

[39] *ꜥḥꜥ.n dwn.n=j rd.wj=j r rḫ dj.t=j m r(ỉ)=j* (ShS. 45–46)
puis, j'étendis les jambes pour chercher à savoir ce que je pourrais me mettre en bouche ("and then I stretched my legs to look for something to put in my mouth")

[40] *rḫ šw.t=k, wnn ḫ.t=k* (Ptahhotep 489)
apprend à connaître tes partisans, et tu auras du bien ("get to know your partisans, you shall have goods")

[41] *m mḫ jb=k m sn, m rḫ ḫnms* (Amenemhet, IId)
ne fais pas confiance à un frère, ne recherche (litt. ne cherche pas à connaître) pas d'ami ("do not trust a brother, do not try to know a friend")

[42] *ḥỉ ỉ rḫ=j ḫm.n kj.wj m tmm.t wḥm* (Khakheperreseneb, ro. 7)[39]
Ah si je savais, alors que les autres ne savent pas, précisément ce qui n'a pas été répété! ("would that I knew—while the others do not know—what has not been repeated!").

When *rḫ* is used with tenses that force the subject to do something (*rdj* + subjunctive)—that is, when the subject is invested with augmented agentivity—it comes close to verbs that belong to the semantic domain of [LEARN]:[40]

[43] *... nn rdj.t rḫ st mšꜥ=f* (Sin. R 22)
"… sans en informer son armée" ("… without informing his army of it").

***rḫ* 3**: "vouloir connaître": x EXISTS, A WANTS TO GET KNOWLEDGE OF x.

Very exceptionally, *rḫ* is found with the progressive; in this case, the verb takes on a conative meaning "to try to get knowledge of," which can be only accounted for if the actionality of *rḫ* is <+>_____, in which case the progressive focuses on the pre-phase immediately adjacent to the beginning of the process ([ ]<+>_____) (see below).

Thus, *rḫ* touches upon the semantic domain of [SEARCH], which can be seen as the logical pre-phase of [KNOW] (see Conclusions, below):

[44] *ỉ.t kt.t mjt.t rsw.t, jw pḥ.tw mwt ḥr rḫ st* (Ptahhotep 287–88)[41]
un court instant, à l'image d'un rêve, et on atteint la mort en essayant de les connaître ("a short moment, like a dream, and one reaches death trying to know them").

***rḫ* 4**: "pouvoir" : A CAN Vb.

This meaning does not seem to be attested before the New Kingdom. This sharply contrasts with *ḫm* "ignore" which can express the impossibility of doing something already in the Old Kingdom (with a lexicalisation process probably on its way already in Earlier Egyptian).

38 The English translation follows Parkinson 2004 (see under "Fowler" in the Bibliography).

39 Gardiner 1909, pl. 17. I analyse *rḫ* as a *mrr=f* form, considering that *m tmm.t wḥm* is the second argument expressed obliquely to convey partitive meaning (Winand forthcoming a), which also allows an emphatic force; I prefer to leave *ḫm.n* as it is (without correcting in *ḫm.n.t*, i.e., a relative form), and to analyse it consequently as a parenthesis.

40 See Peas. B2, 47: *nn ḫm rdj.n=k rḫ=f, nn wḫỉ sbỉ.n=k* "il n'est pas d'ignorant que tu aies rendu savant; il n'est pas de fou que tu aies instruit," where *rdj rḫ* and *sbỉ* are semantically close.

41 Another interpretation is, however, possible by giving to *ḥr* its full status as preposition ("because of knowing them"); cf. *jnk qb šw m ḫỉḫ ḥr rḫ prj* "I was cool, free from haste because of knowing the outcome" (BM 581, B2: Simpson 1974, pl. 12).

c. ***šsꜣ***

The verb *šsꜣ* is well attested in the Old Kingdom. If written with a classifier (the absence of any classifier is far from exceptional), it usually takes the bubalis head and/or the papyrus roll .

The *Wb*. suggests the following translations: "erfahren sein," "kennen," verständig sein"; in the TLA, one can find the following translations: "weise sein," "erfahren sein," "Kenntnis haben von," "vertraut sein mit," "kundig sein," "sorgen für," "geübt sein."

The verb *šsꜣ* originally means "avoir l'expérience de." Considering the available data, the following observations can be made.

***šsꜣ* 1** : "A a de l'expérience en qqch": x EXISTS, A IS EXPERIENCED IN x.

In this sense, *šsꜣ* is attested from the Old Kingdom onward. The argument structure is always A[animate] Vb *m* X[inanimate].

[45] *dj=j zšꜣ=f m ꜥꜣ=k* (Sh.S. 139–40)[42]
je ferai en sorte qu'il soit instruit de ta grandeur ("I shall make him informed of your greatness").

In rare cases the argument introduced by the preposition is animate; the meaning then is "connaître par expérience":

[46] *sšm.t pw rn=k šsꜣ nṯr m jrr n=f* (Merikare, 130)
ton nom est un guide de telle sorte que le dieu connaît par expérience celui qui agit pour lui ("your name is a guide; thus the god knows by experience who acts for him").

***šsꜣ* 2** : "A est expérimenté": A IS EXPERIENCED.

When the second argument is omitted, *šsꜣ* takes on the meaning of being wise:

[47] ... *šsꜣ ḥr ḥr jrj.t jꜣw.t=f* (stela Cairo JE 46200, 5–6)[43]
… au visage expert en remplissant son office ("with an expert face while performing his office")

[48] … *šsꜣ, nn ḫmt.n=f* (Urk. IV, 449, 16)
… sage (expérimenté), il n'est rien qu'il n'ignore ("wise (experienced), there is nothing that he does not know").

***šsꜣ* 3** : "A sait x": x EXISTS, A HAS GAINED EXPERIENCE IN x.

The meaning of *šsꜣ* 1 obtains only with tenses that belong to the PERFECTIVE. When *šsꜣ* is more precisely used with tenses belonging to the PERFECTIVE RESULTATIVE—that is, the participle of *accompli* and the Old Perfective (which does not seem to be attested before the New Kingdom)—it comes very close to verbs such as *rḫ* or *sbꜣ*, which express knowledge or teaching:

[49] *wp-r ḫ.t wḏ.t(j)=s m šsꜣ.t jm* (Urk. I, 213, 7)[44]
si ce n'est les choses qui ont été ordonnées ou bien que l'on connaît ("except for what has been decreed or what has been experienced")

42 See also: *nn wn ky rḫ tw wp-šr sꜣ=k KN, dj=k šsꜣ=f m sḫr.w=k m pḥtj=k* "il n'y a personne qui te connaisse, si ce n'est ton fils, NR, tu as fait en sorte qu'il sache d'expérience tes desseins et ta puissance" (Sandman 1938, 95, 16–17).

43 See Kubisch 2008, 234–38, with fig. 20 and pl. 7c.

44 See Goedicke 1967, 56; Strudwick 2005, 104.

[50] *rḫ ḥp.w, šsꜣ m jr.t* (stela Cairo JE 38998, 2)[45]
qui connaît les lois, expert dans l'action ("who knows the laws, expert in action")

[51] *n ntt wj šsꜣ.kwj wrt m pꜣ qnt nḫt* (Urk. IV, 1239, 15)[46]
car je suis très expérimenté dans l'action d'éclat (because I am very experienced in acts of bravery").

***šsꜣ* 4**: "A fait l'expérience de qqch": x EXISTS, A EXPERIENCES x.

In this sense, *šsꜣ* is attested from the First Intermediate Period onwards. The argument structure is always A[animate] Vb *m* X[inanimate]. When the second argument is deleted, *šsꜣ* takes on the meaning of showing one's experience. The grammatical tenses always belong to the IMPERFECTIVE:[47]

[52] *rḫ.n tꜣwj jqr sḫr.w=f, šsꜣ rmṯ m ḥs.t=f, rdj.n nb tꜣ.wj fꜣw=f* (Siut I, 243)
"celui dont le Double Pays a appris l'excellence des conseils, dont les gens expérimentent la louange, dont le maître des Deux Terres a établi la réputation" ("one whose excellence of counsels the Two Lands have learnt, whose blessing the people experience, whose reputation the lord of the Two Lands has set").

To conclude, *šsꜣ* seems to function as an adjective verb. It is associated with verbs such as *rḫ*, *ʿrq*, and more generally is associated with knowledge; the sentence *rḫ tp-rd, šsꜣ m rḫ.t.n=f* is particularly interesting, as it shows that *rḫ* and *šsꜣ* are not exactly synonymous, *šsꜣ* expressing a quality that can be acquired by getting knowledge of something.

2. **Verbs of searching**

Four verbs are considered here: *ḏʿr*, *ḥḥj*, *wḫꜣ* and *ḫꜣj*.

d. ***ḏʿr***

The verb *ḏʿr* is attested from the MK onwards. It usually takes as classifiers: nothing, , , , in the Middle Kingdom; in the New Kingdom or are also attested.

The *Wb*. suggests the following translations: "suchen," "untersuchen," "(besorgt auf etwas) blicken," "sich kümmern um"; in the TLA, one can find the following translations: "suchen," "aufsuchen," "untersuchen," "seek," "seek favour with X," "erforschen," "herausfinden," "durchkämmen," "sich um etwas (sorgend) kümmern," "beachten."

Considering the available data, the following observations can be made. The verb *ḏʿr* basically means "rechercher" ("look for, search)."

In Egyptian, one can distinguish five main senses of "rechercher." I review them in what probably mirrors the evolution of this lexeme, but it should be noted that the semantic chain suggested here is not supported (nor contradicted either) by the chronology, since all the semantic variants are attested for the first time in the Middle Kingdom.[48]

45 See Kubisch 2008, 194–95, with pl. 4a–b. Cf. Urk. IV, 97, 6–7: *rḫ tp-rd, šsꜣ m rḫ.t.n=f* "qui connaît les règlements, expérimenté dans ce qu'il a appris."

46 Cf. *šsꜣ.kwj m ʿnḫ <.t>.t n jm.s* "sachant par experience de quoi vous vivez" (tomb of Neb-wenenef: DZA *šsꜣ* 30.246.960).

47 As regards Leb. 84 *ḥm.t=f ḥr šsꜣ n=f*, the verb is rather to be understood as *šsꜣ* "beseech, plead" (Allen 2011b, 77).

48 For a diachronic reconstruction based on synchronic (a-chronic) evidence, see the case of Coptic, as exemplified, for instance, in certain recent studies on grammaticalisation (Grossman to appear).

***ḏr* 1**: "rechercher 1a": X EXISTS; A MOVES TO SEEK X; A KNOWS WHERE X IS. "rechercher 1b": X EXISTS; A MOVES TO SEEK X; A **DOES NOT** KNOW WHERE X IS.

As suggested by the classifier D54 (𓂝), *ḏr* expresses a movement to seek someone or something; when the subject knows where to look, *ḏr* is not far from *jnj* "to bring," an observation that can also be made for *wḫꜣ* (see below):

[53] *r ḏr jḥ.w n nṯr=f* (stela Cairo JE 20764, x+4)[49]
pour rechercher des bœufs pour son dieu ("to look for some oxen for his god")

[54] *ḏr=s mꜣꜥ.t jmj.t jn.w jꜣḫw* (CT VI, 187c)
qu'elle aille chercher la Maât qui est avec ceux qui vont chercher la lumière du soleil ("that she may look for Maat that is with those who bring the solar light").

If the subject does not know in advance where to look, the activity can end up in a state of knowledge, that is in a domain that is close to *rḫ*, as suggested by the collocations of *ḏr* and *rḫ* in many contexts:

[55] *pḥ.n=j wḫꜣ.t jmnt.t ḏr.n=j wꜣ.wt=s nb.t* (stela Berlin 22820, 4–5)[50]
j'ai atteint l'oasis occidentale après en avoir exploré tous les chemins ("I have reached the western oasis after exploring all its ways")

[56] *ꜥḥꜥ.n jr.n(=j) hrw 8 ḥr ḏr ḫꜣs.t tn, n rḫ.n=j ... jm* (Hammamat 199, 16)
et alors je passai 8 jours à rechercher ce pays, sans parvenir à savoir où il était (?) ("and then I spent 8 days looking for this land, without knowing where it was").

As regards the grammatical tenses found with *ḏr* 1, tenses belonging to the PERFECTIVE and the IMPERFECTIVE are attested, which suggests that the actionality of *ḏr* can be represented as durative and dynamic.

***ḏr* 2**: "rechercher 2": A TRIES TO KNOW X BY SOME KIND OF INTELLECTUAL ACTIVITY.

***ḏr* 2a:** X EXISTS.

In this sense, *ḏr* expresses the activity of searching to get knowledge of something or to discover something; no movement, no physical activity is involved in this case. It thus has potential cognitive extensions towards the domain of *rḫ* (more rarely *sjꜣ*) and *gmj*.

The activity of searching is best expressed with tenses belonging to the IMPERFECTIVE; but the result of the searching can also be expressed by a tense belonging to the PERFECTIVE (*sḏm.n=f*), which is different to merely stating the fact that one is now in the situation of knowing (*rḫ*) or of having discovered (*gmj*) something. Both are of course acceptable, but they nevertheless express two different viewpoints on almost identical states of affairs.

[57] *jw jr.tj=fj ḏr=sn ḫ.t nb.t* (Cairo CG 20538, II, c, 11)[51]
ses yeux scrutent tous les corps ("his eyes scrutinise every body")

49 See Vernus 1986b, 144–46.

50 See Anthes 1930, 109; photo in Freed 1996, 305. For the association of *ḏr* and *wꜣ.t* "path, way," cf. Naville 1898, pl. 84, 5.

51 See also Ipuwer 11, 12–13: *mṯn sw ḥr ḏr[r qd] ḥr m* "voyez, pourquoi enquête-t-il sur le caractère des hommes?"; K*RI* III, 284, 1–2: *ḥr-nty jr jt=f jmn, nṯr wr, nn mjt.t=f ḏr n ḫ.t, wbꜣ ḥꜣty.w, sjꜣ rḫ ḫnw ḫ.t* "car quant à Amon, c'est un grand dieu, qui n'a pas son pareil, qui scrute le corps, qui ouvre les cœurs, c'est Sia qui connait l'intérieur du corps."

[58] *nsw.t ḏs=f ḏr sḫ gm.n=f ꜣḫ.t n m-ḫt* (Urk. IV, 861, 5–6)

c'est le roi lui-même qui a pris conseil, il a trouvé quelque chose d'utile pour le futur ("it is the king himself who sought advice; he found something useful for the future").

The way the search has been made can be made explicit; *ḏr* is thus close to verbs that express either a questioning or a means of getting information (hearing or seeing):

[59] *jr ḏr=k qd n ḫnms, m šnn r=k tkn jm=f* (Ptahhotep 463)

si tu enquêtes sur le caractère d'un commensal, n'interroge donc pas celui qui se trouve à côté ("if you look into the character of a friend, do not question one who is near him").

Most often, the argument structure is A[animate] Vb X[(in)animate], but *ḏr* can also be used without an explicit second argument; in the following example, one will note the presence of a prepositional phrase that limitlessly extends the activity of searching:

[60] *ḏr.n=f ḥr wꜣ.t nb.t n gm=f zp ḫsj m-ꜥ=j* (Urk. IV, 1425, 14–15)

il a cherché partout, mais il n'a trouvé aucun acte répréhensible à ma charge ("he looked everywhere, but he did not find any wrongdoing in my charge").

The meaning of *ḏr* can have a slight variant, where the subject tries by some intellectual activity to find an X that belongs to a given class; in the next example, the nature of the direct object is made explicit by the extension *m* + NP:

[61] *rḥ.w mtn rdj.n=j jꜥš=tw n=tn r rdj.t ḏr=tn n=j sꜣ=tn m sꜣꜣ* (Neferti 6)

camarades, voyez, je vous ai fait mander afin que vous fassiez chercher pour moi un fils de vous qui soit sage ("Comrades, look, I summoned you so that you seek out for me a son of yours that is wise").

From the New Kingdom onward, *ḏr* can also express the interest one has in looking for something; the derived meaning is something close to "take an interest in" ("sich kümmern um"). In this sense, *ḏr* is phraseologically more frequently attested in negative patterns. One will note that *ḏr* is very close in this respect to *nw r* + NP in the Late Egyptian material. As this is outside my corpus of reference I give here only one example:

[62] *n ḏr.n=f ḥḥ m ḫꜣstj.w* (K*RI* II, 120, 14)

il ne se préoccupe (recherche) pas des millers d'étrangers ("he does not take an interest in thousands of foreigners").

***ḏr* 2b:** x **DOES NOT** EXIST.

In this sense, the subject tries to find something that does not exist; he tries to find a solution It is accordingly very close to *ḥḥj*, very often associated with the latter in phrasing. In this respect, *ḏr* can in some cases take the meaning of creating, imagining something new, which brings it close to a verb like *gmj*, but also *ḫmt* or *jb*.

As regards the argument structure, one will note that *ḏr* is not infrequently used without a second argument—actually, it is the best attested pattern in the documentation.

[63] *n ḏr(=j) bw ḏw.wy n-mrw.t wꜣḥ tp-tꜣ, zb.t r jmꜣḫ* (Siut IV, 65)

je n'ai rien conçu de mal afin de perdurer sur terre et d'atteindre l'état de bienheureux ("I have not conceived of any wrong action, in order to stay on earth and reach the state of a revered one")

[64] *ꜣḫ ḥꜣty ḏr=f mnw r swꜣḥ rn wr n nb=f* (Cairo CG 583, 8)[52]
au cœur utile quand il imagine des monuments pour établir le grand nom de son maître (“useful of heart when he looks for monuments to make endure the great name of his lord”)

[65] *jnk sš … ḏr gm* (stela Louvre C 167, 1)[53]
je suis un scribe … quelqu’un qui cherche et trouve (“I am a scribe … one who searches and finds”)

[66] *ḏr ḫnw m ḥḥj n jb* (Khakheperreseneb, ro. 1)
rechercher les phrases en se questionnant l’esprit (“seeking sentences by searching the heart”)

[67] *jb=j nṯr(j) ḥr ḏr n m-ḫt ḥꜣty bj.t ḫmt.n=f nḥḥ ḥr tp.t-r(ꜣ) wp-jšd jmn* (Urk. IV, 384, 12–14)
mon cœur divin en recherchant pour le futur; le cœur d’un roi a pensé l’éternité en fonction des déclarations de l’ouverture de l’arbre-ished d’Amon (“my divine heart searching for the future; the king’s heart thought of eternity in accordance with the declarations of the opening of the ished-tree, of Amun”)

In one case, the argument structure has been changed: the second argument has been omitted and there is a third argument introduced by *n* for expressing the beneficiary of the process; the intended meaning is “to flatter someone,” a derived sense that is reminiscent of the case of *sḏm n* “to obey”:

[68] *n qr(=j) z n ḥr(j)-tp=f, n ḏr=j n sḫm-jr=f* (stela BM 562, x+6)[54]
je n’ai pas noirci quelqu’un auprès de son supérieur, je n’ai pas flatté le puissant (“I did not denigrate a man to his superior, I did not seek a favour of a mighty one”).

***ḏr* 3**: “rechercher 3”: x EXISTS; A TRIES TO KNOW x BY SOME KIND OF INTELLECTUAL **AND** PHYSICAL ACTIVITY.

In this meaning, *ḏr* moves closer to a more intellectual kind of searching, but it still requires some physical activity, as needed for instance in a medical diagnosis (exploring a wound); in this respect, *ḏr* is of course close to *ḫꜣj*, a well-known verb in medical texts (see below), which also shows a semantic trail starting with a practical activity (measuring) and ending up with an intellectual one (evaluating, pondering).

In this sense, *ḏr* expresses an activity that is supposed to lead to the discovery of something, not to the acquisition of knowledge, a relation that can be activated in *ḏr* 2.

[69] *ḏr.ḥr=k wbn=f gmm=k ḫ.t jm nḥꜣ ḫr ḏbꜥ.w=k* (pSmith 2, 3)
tu devras examiner sa blessure, tu y trouveras quelque chose d’irrégulier sous tes doigts (“you should examine his wound, and you shall find something irregular under your fingers”).

As regards the grammatical tenses, one will note that in this meaning *ḏr* is attested, but only once, in the Old Perfective. All examples of *ḏr* 3 come from 18th Dynasty medical texts, which might suggest that *ḏr* 3 is a later development in the technical vocabulary:

[70] *ꜥꜣ.t pw n.t ḥꜥ.w, mr jry=j, ḏr.tj m ḫ.t* (pEbers 106, 5–6)
c’est un gonflement de la chair, une maladie que je vais traiter, une fois qu’elle a été examinée au feu (“it is a swelling of the flesh, a disease I will handle, once it has been examined with fire”).

To sum up, as regards the grammatical tenses, all aspectual tenses are attested, with the notable exception of the *accompli ponctuel*, which might suggest—if it is not a gap in our documentation—that *ḏr*

52 Statue of Amenhotep, son of Hapu; see Varille 1968, pls. v–viii.

53 See Simpson 1974, pl. 10. Cf. BD Nu 113, 4 (Lapp 1997, pl. 54) *ḏr.n=j gm.n=j bw* “j’ai cherché et j’ai trouvé quelque chose.”

54 See Simpson 1974, pl. 12. The meaning of *qr* remains vague (but see the commentary of R. Landgráfová for the TLA).

is not essentially a telic verb. An *accompli résultatif* (Old Perfective and *sḏm.n=f*, both circumstancial and as an autonomous sentence [*jw sḏm.n=f*]) can sometimes, although not frequently, be found, and in this *ḏʿr* is similar to other verbs such as *sḏm* or *mȝȝ*, which can also develop a post-phase when they take on the meaning of "listening to/taking into account" or "looking at," respectively (Winand 2006, 230).

e. ***ḥḥj***

The verb *ḥḥj* is attested already in the Old Kingdom. It regularly takes the moving legs as classifier; in the Pyramid Texts, other classifiers involving the arms are sporadically found (, ,).

The *Wb*. suggests the following translations: "suchen"; in the TLA, one can find the following translations: "suchen," "herumgehen," "verloren gehen," "überlegen."

Considering the available data, the following observations can be made. The verb *ḥḥj* basically means "(aller) chercher." In Egyptian, one can distinguish four main senses of "(aller) chercher."

***ḥḥj* 1**: "(aller) chercher 1": x EXISTS; A MOVES TO SEEK x.

The first attested meaning of *ḥḥj* is "(aller) chercher 1"; it is also the only one attested for the Old Kingdom (Pyramid Texts). The pattern NP + *m* + infinitive shows that *ḥḥj* was first conceived of as a verb of movement, which is of course implied by the classifier. This is also evident from its collocation with other verbs of movement:

[71] *jw=j ḥḥ=j wsjr r jwnw* (CT V, 284b M3C)[55]
je recherche Osiris vers/du côté de Héliopolis ("I look for Osiris around Heliopolis")

[72] *ḥḥ n=tn wsjr PN r t=f pn* (CT VI, 380h)
cherchez donc l'Osiris PN pour ce pain qui est à lui ("look you for the Osiris PN for this bread of his")

[73] *zbj.n=j m sf, jj.n=j m mjn, jw=j m ḥḥ ḫftj.w=j* (CT VI, 86f–g)
si je suis parti hier et revenu aujourd'hui, c'est que je recherchais mes ennemis ("I went off yesterday and I came back today, for I was looking for my enemies")

[74] *ḥḥ.w mtr spr=f* (CT VI, 73g)
qui recherche un témoignage quand il arrive ("who looks for a testimony when he arrives")

The natural outcome of the activity of *ḥḥj*-ing is finding (*gmj*).

[75] *gm.n KN m p, ḥḥ.n KN m jwnw* (Pyr. 2250c)[56]
NR (l')a trouvé à Pé, après que NR (l')a cherché à Héliopolis ("KN found (him) in Pe, after KN looked for him in Heliopolis")

[76] *r ḥḥy n=f [s.t qb.t], n gm.n=f s(j)* (pWestcar 4, 22)
pour rechercher pour lui un lieu de délassement, sans pouvoir le trouver ("to look for himself for a place of leisure without being able to find it").

***ḥḥj* 2**: "(aller) chercher 2"

***ḥḥj* 2a**: x EXISTS; A SEEKS x BY THINKING (the subject tries to find out intellectually something that already exists, at least in some mythical reality).

55 In B9C, the text reads *jw=j m ḥḥ wsjr r jwnw*.

56 In Pyr. 1242b, the reading is *ḥḥ.n s(j) KN m pj, gm.n=<f> s(j) m jwnw*, which shows that the *consecutio temporum* is pragmatically conditioned by what I called elsewhere the rule of causality (Winand 2000; 2006), rather than by some mysterious hidden features in the morphology of the *sḏm.n=f*.

***ḥḥj* 2b**: x DOES NOT EXIST; A SEEKS X BY THINKING (this meaning has a variant where A tries to look for something that does not already exist).

In this sense, *ḥḥj* is attested from the Middle Kingdom onward. It is very close to *ḏr*, with which it seems to form a stylistic pair in the 18th Dynasty without any significant difference.[57] The fact that *ḥḥj* is no longer conceived of as a verb of movement is made evident by the fact that the progressive pattern NP + *ḥr* + infinitive has taken over the previous one (*m* + infinitive). It is probably not by chance that *ḥḥj*, in this sense, is almost always used with tenses that belong to the IMPERFECTIVE.

[77] *ḥḥ=j ꜣḫ.t n m-ḫt m rdj.t zp pn m jb=ṯn* (Helck 1975, 28: stela of Neferhotep, 34)
quand je recherche quelque chose d'utile pour le futur en mettant cette action dans votre cœur ("when I look for something useful for the future by placing this action in your heart")

[78] *tp=j rs(.w) ḥr ḥḥy ꜣḫ.t(y).sy* (Urk. IV, 57, 8)
ma tête restait éveillée à rechercher ce qui serait utile" ("my head stayed awake while looking for what will be useful)

[79] *jst wrš ḥm n nswt bjty ḫwfw mꜣꜥ-ḫrw ḥr ḥḥy n=f nꜣ n jp.t n.t wn.t n.t ḏḥwty* (pWestcar 7, 6–7)
or la majesté du roi de H. et de B. Égypte, Khoufou, j.v., passait son temps à rechercher pour lui-même les chambres du sanctuaire de Thot ("while the king of Upper and Lower Egypt, Khufu, spent his time looking for himself for the rooms of the chapel of Thoth")

[80] *wn{n}.ḫr ḥm=f ḥr wꜣwꜣ zḥ ḥnꜥ jb=f ḥr ḏꜥr zp nb mnḫ ḥr ḥḥ ꜣḫ.t n jt=f jmn* (Urk. IV, 2028, 9–12)
Sa Majesté délibéra en son cœur à chercher toute action efficace, à rechercher ce qui est utile pour son père Amon ("His Majesty took counsel with his heart, looking for any beneficial act, looking for something useful for his father Amun").

***ḥḥj* 3**: "(aller) chercher 3": x EXISTS; A LOOKS AND SEEKS x.

In this sense, emphasis is put on visual activity, which makes *ḥḥj* closer to perception verbs such as *gmḥ*. One must add to this the construction A[+ANIMATE] *m ḥḥj* zero, with the meaning "to be looking (for something)," which contextually means "to be desperately in the state of looking for something" (i.e., for help). It is probably worth noting that the rare examples of this come from the Kamose text; compare:

[81] *pḏ.t n.t mḏꜣj.w m ḥr.t ṯꜣr.t=n r ḥḥj sttjw r dr s.t=sn* (Helck 1975, 88: Carnarvon Tablet, 11)
les unités d'archers Médjai étaient sur la terrasse de notre cabine pour repérer les Asiatiques et repousser leur position ("the Medjai bowmen were on the terrace of our cabin to look out for the Asiatics and repel their stronghold")

[82] *pr-šꜣq m ḥḥj, spr=j r=f* (Helck 1975, 90: Carnarvon Tablet, 16)
Per-Shaq était (désespérément) en recherche, quand je l'atteignis ("Per-Shaq was (desperately) in need when I reached it").

ḥḥj can also take on the meaning of looking for something; two examples from the 18th Dynasty are to be considered here (both from Amarna), involving a possible change in the argument structure, the second argument being expressed obliquely using a preposition (*n* or *ḥr*). The first example is not unproblematic as the reading *ḥḥ n=f* (in a somewhat damaged context) might be a deformation of the more banal expression *ḥḥ rn=k* "looking for your name," which is attested elsewhere in this tomb:

57 See also, e.g., inscription B of Montuemhat, Karnak, Chapel of Mut, 18 (25th Dyn.): *wrš=j ḥr ḥḥj sḏr=j (ḥr) ḏꜥr ḥr ḥḥj* "I spent the day searching, and I spent the night looking and searching" (Leclant 1961, 200 and 211, n. az).

[83] *rwḏ rn=k nn ḥḥ n=f m ḥw.t=k* (Sandman 1938, 41, 10)
que ton nom soit florissant sans qu'on doive le chercher dans ta tombe ("may your name flourish without being searched for in your tomb")

[84] *bn ḥḥ jr.t=j ḥr nfrw=k* (Sandman 1938, 16, 12)
sans que mon œil ne doive rechercher ta perfection ("while my eye will not have to look for your perfection").

***ḥḥj* 4**: "(aller) chercher 4": A SEEKS TO DO x.

In this sense, the subject expresses a wish to do something. This meaning, which is more prominent with *wḫꜣ*, the diachronic successor of *ḥḥj* (see below), brings *ḥḥj* closer to verbs of wishing such as *mrj* (see Ex. 91 below, and the parallel to Ex. 87 in Sin. B 123, cited in n. 61 below). As regards the argument structure, the second argument is always an infinitive, except for one example. The tenses that are associated to this meaning always belong to the IMPERFECTIVE:

[85] *wḫ.t nṯr.wj sḏr=sn ḥr=s ḥḥ.t nṯr.wj sḏr.t r=s* (CT VII, 44g)
la nuit des deux dieux dans laquelle ils se couchent et vers laquelle les deux dieux cherchent à se coucher ("the night of the two gods wherein they lie and towards which the two gods seek to lie")

[86] *jn-jw nb ꜥ,w,s ḥr ḥḥ ntt r jr.t r bꜣk-jm* (pBerlin 10025, vo. 4–5)[58]
est-ce que le maître, VSF, recherche quelque chose à faire contre ce serviteur ici présent? ("does the lord, lph, try to do something against this servant here")

[87] *nḥt ḥr ḥḥy ꜥḥꜣ* (Urk. IV, 85, 9)[59]
le champion, recherchant le combat ("the champion, seeking to fight").

ḥḥj, like *ḏꜥr*, first expresses the physical search for someone or something, which implies a movement; the subject might happen to know in advance where X is ("rechercher 1") or not ("rechercher 2"). In a second step, the search is an intellectual activity only. *ḥḥj* can also express the interest the subject has in his or her quest (looking for), which explains why *ḥḥj* can be treated like a modal auxiliary expressing the wish to do something. *ḥḥj* and *ḏꜥr* are thus rather close (cf. in phraseology, where both appear in collocation), but they have nevertheless two distinct semantic domains, as shown by their argument structures and the ways they combine with grammatical tenses.

ḥḥj is attested in both variants of the *inaccompli* (*général* and *progressif*). In the Pyramid Texts, it is also attested as a *sḏm.n=f* in the *accompli résultatif*. Although it is perceived as a verb of movement (cf. NP + *m* + inf.), it is also treated as transitive. This is of course reminiscent of the verb *pḥ* "reach," which is also treated as transitive before becoming intransitive in the New Kingdom (Winand 1999).

In my graphic representation of actionality, the phasal structure of *ḥḥj* can be captured as <~~~~~+>—— for the Old Kingdom, and <~~~~~> from the Middle Kingdom onward. It seems that *ḥḥj* lost its semantic feature of telicity. In this respect, one can suggest that it was recategorized as the pre-phase of verbs like *gmj*, which are deprived of a pre-phase.

After the 18th Dynasty, *ḥḥj* seems to be used only in texts written in *Egyptien de tradition*.[60]

58 See Luft 1992.

59 This is of course reminiscent of the well-known passage in Sin. B 123: *jn-jw kꜣ mrj.f ꜥḥꜣ*.

60 In the *Ramses* database under development at Liège, there are only four instances of *ḥḥj* in Late Egyptian texts, always in texts with some literary pretentions.

f. ***wḫꜣ***

The verb *wḫꜣ* is sporadically attested before the NK. If written with a classifier, it usually takes the moving legs 𓂝.

The *Wb*. suggests the following translations: "suchen," "holen," begehren"; in the TLA, one can find the following translations: "(aus)suchen," "versuchen," "holen," "besorgen," "begehren," "etwas tun wollen," "einfordern."

Considering the available data, the following observations can be made. The verb *wḫꜣ* originally means "aller chercher" ("get hold of something"). In Egyptian, one can distinguish four main senses of "aller chercher," which can be arranged in the following order, respecting the chronology of the data.

***wḫꜣ* 1**: "aller chercher 1": x EXISTS, A MOVES TO GET x.

This is the most ancient meaning, attested in the Old Kingdom but not found in the religious texts, which is interesting if one contrasts this with the situation of *ḥḥj*, which is present in the Pyramid Texts. The idea of movement in the semantics of the verb is of course well illustrated by the presence of the classifier D54 (𓂝).

[88] *jw gr ḥꜣb N M r wḫꜣ ṯrw n mr.t* (Berlin 1911, pl. 4, Be–f 2–3)[61]
N a envoyé M chercher de l'ocre pour l'équipe ("N has sent M to fetch ochre for the crew")

[89] *mꜣ.n=f hh=j, ḥꜣb.n=f šꜣʿ-r kš r wḫꜣ nḫ=f* (Helck 1975, 95: Kamose Stela II, 26–27)
à peine a-t-il vu mon haleine, qu'il a envoyé jusqu'à Kouch pour quérir son secours ("as soon as he saw my breath, he sent as far as Kush to seek for his help")

[90] *nn ḥm(=j) ḫ.t r=ṯ, jw(=j) grt wḫꜣ.n(=j) […]* (Wente 1975–76, 6: Letter to the Dead, col. 6)
je n'éloignerai aucune offrande de toi, au contraire, j'ai été cherché […] ("I will not remove an offering from you, I have instead fetched […]").

***wḫꜣ* 2**: "aller chercher 2": x EXISTS, A MOVES TO TRY TO FIND x.

In this case, the subject is still moving trying to find something or someone; as in the first example, the idea of bringing back what has been found might be present, though not necessarily, as shown in Ex. 92, where a movement is still involved.

[91] *djdj=f sw r mrr.wt r mrr.wt r wḫꜣ r ḫꜣq=f* (Kheti, V, 4–5)
il ne se rend de rue en rue que pour chercher (quelqu'un) à raser ("he goes from street to street only to look for someone to shave")

[92] *jnm pw wḫꜣ r tr pn* (Sinai 63, 10)
c'est la couleur que l'on recherche à cette saison ("it is the colour one seeks at this time").

***wḫꜣ* 3**: "aller chercher 3": x EXISTS, A TRIES TO FIND x.

In this sense, the subject tries to find out something by means of intellectual activity; movement is no longer involved. As already observed with verbs involving a type of searching, the grammatical tenses mostly belong to the IMPERFECTIVE; *wḫꜣ* can be associated with *gmj*, which appears to constitute the post-phase of the activity of searching.

[93] *wḫꜣ ḏr.t=k* (Beni Hasan I, pl. 21, graffito)
recherche ta main (= ta propre aide?) ("look for your hand")

61 Cf. *wḫꜣ mskꜣ ḥnʿ ṯrw* "chercher du cuir et de l'ocre" (Berlin 1911, pl. 4, A 6).

[94] *gm.t wḫꜣ zp nfr r jr.t=f* (Urk. IV, 401, 7)[62]
trouver et rechercher un acte utile à faire (“finding and looking for a useful action to do”)

[95] *jn PN pn wḫꜣ=f pḥ.wj mdw* (CT VI, 264v)
c’est ce NP qui cherchera la fin du propos (“it is this PN who will look for the end of this matter”).

***wḫꜣ* 4**: “aller chercher 4”: x EXISTS, A WANTS X FROM Y.

This meaning is a later development, attested in the Ramesside period. It of course opens the way for the evolution of *wḫꜣ* towards the meaning “to wish, to desire.” Only one example is given here:

[96] *ḏw wḫꜣ ḫ.t m-ꜥ=f jn n(ꜣ) nty mwt* (pChester Beatty III, 9, 14b: Gardiner 1935, pl. 9)
mauvais: il sera exigé de lui quelque chose par ceux qui sont morts (“bad: something will be asked from him by those who are dead”).

To sum up, one will note that *wḫꜣ* is not associated with a non-existing x; in other words, it cannot take on the meaning of “creating something with the mind,” a semantic evolution which has been observed for *ḏꜥr* (see above). It seems that *wḫꜣ* simply overtook *ḥḥj* in texts closer to the vernacular, an observation that is supported by the fact that the progressive is widely used with *wḫꜣ* in Late Egyptian. *wḫꜣ* also followed the same semantic path, finally becoming a modal auxiliary (Polis 2009).

g. ***ḫꜣj***

The verb *ḫꜣj* is attested from the Old Kingdom onward. If written with a classifier, it usually takes or (Old Kingdom), , or (Middle Kingdom and later).

The *Wb*. suggests the following translations: “wägen, messen”; in the TLA, one can find the following translations: “wägen, messen,” “abmessen,” “bemessen.”

Considering the available data, the following observations can be made. The evolution of *ḫꜣj* seems to be as follows.

***ḫꜣj* 1**: “mesurer 1”; x EXISTS, A MEASURES x.

The first meaning of *ḫꜣj* is to measure, most commonly a quantity of corn. It is well attested in this sense during the Old Kingdom, for instance in the captions of tomb scenes. The verb can be used in tenses belonging to the IMPERFECTIVE and the PERFECTIVE, including resultative tenses, such as the Old Perfective:

[97] *ḫꜣj.t jt jn* X (Moussa and Altenmüller 1977, fig. 8, 1)
mesurer le grain par X (“measuring the grain by X”)

[98] *jw nn m ḫꜣj.t rꜥ nb* (pBM 10735, 2A, 1.1: Posener-Kriéger 1968, 2A, 1)
c’est ce qui est à mesurer chaque jour (this is what is to be measured every day”)

[99] *jw=f ḫꜣj.w* (Wild 1953, pl. 115)
il a été mesuré (“it has been measured”).

It is possible to add a PrepP (*m* + NP) to show how the measuring was made:

[100] *ḫꜣj(=j) nn jm=f* (Moussa and Altenmüller 1977, fig. 11, 4, 2)
je le mesure avec cela (“I am measuring it with this”)

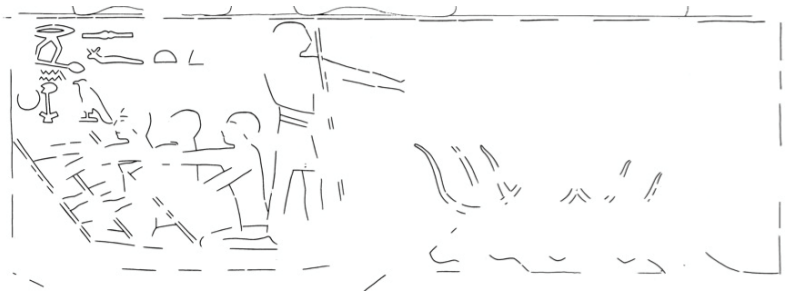
62 This sentence is immediately followed by another formula involving the idea of searching/looking for (*ḥḥj ꜣḫ.tj.sj n nb tꜣ.wj* “looking for what will be useful for the Lord of the Two Lands”). The lexical pair *wḫꜣ/gmj* can be illustrated by many examples in Middle Egyptian and Late Egyptian as well: see, e.g., LES 23, 3–4 *jw=f jr 3 rnp.wt n wḫꜣ=f nn gm=f* “and he spent three years looking for him without finding him.”

[101] *tȝ jp.t ḫȝ.t st jm=s* (Heqanakht II, ro. 5b)
cet oipé avec laquelle on le mesure (“this oipe with which one measures it”).

***ḫȝj* 2**: “mesurer 2”; x EXISTS, A LOOKS FOR/OBSERVES/WATCHES/EVALUATES/PONDERS x.

In the following example, *ḫȝj* probably means that the pilot is observing the water, evaluating the risks of the trip by fear of the crocodiles.

[102] *ḫn zf [ntj-ḥnʿ=j] n ḫȝj(=j)*[63]
rame et fais gaffe, compagnon, pendant que j’observe (“row and watch out, comrade, while I observe”).



A similar meaning is found much later in a medico-magical text from the New Kingdom:

[103] *tȝ mtw.t wḫȝ=j nhp.t=ṯ ntj m ḥʿ.w nb* (Posener 1978, pl. 51: oDeM 1603, 4–5)
ô venin, je vais traquer tes mouvements (?) qui sont dans tous les membres (“O poison, I will investigate your moves that are in all limbs”).

***ḫȝj* 3**: x exists, A EXAMINES, INVESTIGATES x.

In this sense, *ḫȝj* is well represented in the medical corpus of the 18th Dynasty where it is a common verb for expressing the examination made by the physician before finding (*gmj*) the patient’s illness and making the final diagnosis:[64]

[104] *jr ḫȝ=k sw m-ḫt jr.t nn, gmm=k ḫȝj.t=f jptn mn.tj mj jmj.t-ḫȝ.t* ... (pEbers 41, 1)
si tu l’examines après avoir fait cela et que tu trouves cette maladie à lui établie comme précédemment, … (“if you examine him after doing this, and you find out this illness of his as it was before …”).

D. Conclusions

1. A verbal lexeme ordinarily has several meanings. It suffices here to evoke the (sometimes very large) array of meanings that are given in dictionaries. Diachrony of course can play a role in this semantic evolution, but multiple meaning is also a fact in synchrony.

2. In Earlier Egyptian (and probably to a lesser extent in Later Egyptian), these meanings are somewhat conditioned by the grammatical tense system. Here are some examples:

- *sjȝ* 1 “reconnaître 1” is strongly connected with tenses that belong to the PERFECTIVE;
- for *rḫ*, there is a strong difference between *rḫ* 1 and *rḫ* 2 as regards the tense system in autonomous sentences (perfective *sḏm=f* or (*jw*) NP + Old Perfective, vs. *jw rḫ.n=f*, respectively);

63 See Brovarski 2001, 42 and pl. 30.
64 Cf. Vernus 2012, 402.

- for *rḫ* 2, the use of the progressive (Ex. 44) sheds an exceptional light on this verb's actionality, and also on the semantics of the progressive in Egyptian;
- the meaning of *šsꜣ* 1 is only attested with the *accompli résultatif*; this sharply contrasts with *šsꜣ* 2, which is attested with grammatical tenses that belong to the IMPERFECTIVE;
- the fact that the verbs of searching are regularly used with tenses of the *inaccompli* vividly contrasts with the verbs of knowing with which these tenses are less used or, for some meanings, excluded (see the semantic map, below).

So the gaps in the system—I mean the resistance or the impossibility of combining certain grammatical tenses with certain verbs—are most often meaningful: for instance, there is little chance of accounting for the fact that *sjꜣ* is never attested in the progressive only by the fragmentary state of the data, but it has very much to do with its actionality.

The main aspectual opposition in Earlier Egyptian between IMPERFECTIVE and PERFECTIVE, which is conveyed in the first place by the grammatical tenses that belong to the *inaccompli* and the *accompli* respectively, can be neutralised in certain circumstances, for instance in some syntactic environments:

- for instance, after a preposition (*rḫ* 1, Exx. 27–28); for immutable verbs, trying to analyse the nature of the *sḏm=f* in these cases does not really make sense;
- in the so-called circumstantial use of the *sḏm=f* (a tense that expresses the *inaccompli* in autonomous sentences), the verb *rḫ* 1 (Ex. 30) has the meaning "to know": i.e., a meaning that in autonomous sentences obtains only with tenses of the accompli;
- in the relative forms, the *sḏm.w.n=f* for instance neutralises the opposition within the *accompli* between resultative and non-resultative; this is evident for *rḫ*, which can equally have the meaning of knowing (Exx. 25–26) or getting knowledge (Ex. 11; Ptahhotep 52).

3. The argument structure is an important factor in understanding the semantics of a verbal lexeme. This can be illustrated by two rather common situations. The first one is the omission of the second argument (most often the direct object). Different semantic effects can happen in this case:

- with *rḫ* 1, the omission of the object expresses the mere situation of knowing; as has been observed, the omission of the second argument is not attested for *rḫ* 2, for obvious semantic reasons;
- with *šsꜣ* 1: A *šsꜣ m* X "A has some experience in X" > A *šsꜣ* ø "A is wise"; with *šsꜣ* 2: A *šsꜣ m* X "A experiences X" > A *šsꜣ* ø "A shows his or her experience";
- with *ḏꜥr* 3, there is a difference between *ḏꜥr* 3a and 3b; in the latter case, *ḏꜥr* is very often attested without a second argument, which is after all what is to be expected with the meaning of *ḏꜥr* 3 (trying to find something that does not exist yet).

The second case is offered by the addition of a new argument to the basic argument structure:

- this is the case with *rḫ* 1, which can have an extension expressed by the PrepP *r* + SN, with the meaning "to make a distinction between X and Y";
- for *ḏꜥr* 3, the usual argument structure, A *ḏꜥr* X, can be changed into A *ḏꜥr* ø *n* Y to convey the meaning of flattering someone (trying to find [something] for the benefit of someone);
- with *ḥḥj* 3, one also observes an oblique construction (debatable with *n*, but well secured for *ḥr*), which conveys the meaning of looking for something (Exx. 85–86).

4. A close look at the semantics of the argument structure can help in making important distinctions between quasi synonyms: an important difference between *ḏr* and *wḫꜣ* is that the latter is never associated with a non-existent object; in other words, it can never take on the meaning of creating/imagining something new with the power of the mind.

5. Differences sometimes can be accounted for by taking into account the textual genres:

- with *rḫ* 1, the meaning "to know" in an autonomous sentence exists in the Old Kingdom with the Old Perfective (NP + OP) or with the so-called perfective *sḏm=f*. As it turns out, the latter pattern does not seem to be attested outside the Pyramid Texts. As a consequence, the rare examples that have been previously analysed as perfective *sḏm=f*'s have to be reconsidered. For the cases I have been able to find, another explanation was at hand, namely a non-verbal construction with an adjectival predicate, a pattern that is well attested for *rḫ* in Old Egyptian.
- *wḫꜣ* 1 is rare in the Old Kingdom; it has a meaning very close to that of *ḥḥj*, but in contrast with the latter, it is never attested in religious texts (Pyramid Texts), which is in agreement with the hypothesis that *wḫꜣ*, as compared to *ḥḥj*, is a newcomer.

6. The semantics of verbs helps in deciding which time trajectory to choose in the *consecutio temporum*. As seen with *ḥḥj* (Ex. 77), an identical state of affairs can be expressed by the sequence *gmj.n* NP + *ḥḥj.n* NP, or *ḥḥj.n* NP + *gmj.n* NP (see Winand 2000).

7. As has been exemplified many times in this study, when analyzing the semantic network of a verbal lexeme, one has to pay attention to the other semantically related verbs that appear in collocation with it (see below).

8. The meanings of a verbal lexeme can be arranged so as to evoke a diachronic evolution. In principle, the data should be in accordance with the picture that is reconstructed (see *sjꜣ*, or the modal use of *rḫ*, see also the late and secondary evolution of *ḏr* 2, or the modal uses of *ḥḥj* and *wḫꜣ*). Now, in Ancient Egyptian, especially for the earliest periods, a meaning one could be tempted to analyse as the most ancient one does not necessarily antedate the others in the documentation. Although this has not been observed in this study, one cannot either reject the possibility that an older meaning is attested in the documentation a little later than another meaning that actually constitutes a secondary development.

9. When entering into the detail of verbal semantics, the system of classifiers does not actually add much to the information, but it can nevertheless help to confirm some results: the most striking example is of course given by verbs like *wḫꜣ*, *ḥḥj*, and *ḏr*, which are first written with the moving legs (D54), which is in perfect accord with other observations.

Over time, the number of classifiers can be extended, without necessarily dropping the earlier ones, which must be re-analysed as mere orthographic reflexes:[65] for instance, *ḥḥj* can still be written with the classifier of the moving legs at a time when the idea of movement has been totally obliterated (as revealed by the shift of *m* + infinitive to *ḥr* + infinitive to express the progressive aspect).

10. The conclusion of the conclusion is plain and simple. To the question "How can we improve our understanding of Older Egyptian?," **one** of the possible answers is "by paying a closer attention to the relations between verbs and the grammatical tense system." This is always rewarding, but it is particularly so when dealing with a stage of the language that has at its core a tense system built on aspectual oppositions.

65 Cf. Orly Goldwasser's "death of the metaphor" (Goldwasser 2002, 38).

E. Semantic Map

For more than two decades, semantic maps have been introduced in linguistics to help understand how related grammatical morphs or lexical items combine in a network (Croft 2001, Haspelmath 2003).[66] For obvious reasons (Haspelmath 2003), semantic maps have been used almost exclusively for describing grammatical morphs, but interesting attempts have been made for lexical items as well (see already Haspelmath 2003, 237–38; now François 2008, Perrin 2010, Wälchli and Cysouw 2012). In Egyptology, semantic maps made their appearance only in the past few years (Werning 2012, Grossman and Polis 2012).

From a theoretical point of view, semantic maps have evolved as the obvious complement of a polysemic approach to the lexicon, although it should be noted that semantic maps are not just another way of presenting the data of a traditional polysemic analysis. As already noted in the specialised literature (Haspelmath 2003, 217–18), one of the advantages of a semantic map is that it allows for making predictions (which is the consequence of the falsifiability property of any semantic map).

As for theory, that of semantic maps crucially relies on comparison between languages (Haspelmath 2003, 213). Does this mean that it cannot be used to describe a semantic network within a single language? Hopefully not. At least, this is the claim that is made here (see also Grossman and Polis 2012, 188, on the ways one can identify meanings in the context of one single language). Of course, a semantic map involves comparison; but the comparison can be made at different levels. From a typological point of view, semantic maps can claim some universality by taking into account several genetically or typologically unrelated languages. According to Haspelmath, a sample of twelve languages should provide reliable information to draw any semantic map. What I am doing here is making a comparison between a lexical system used in one particular language (in this case Ancient Egyptian) with a semantic description of meanings made by using semantic primitives.[67]

As regards ancient languages, it is obvious that they will probably call for special developments as regards methodology and epistemology, since they raise particular issues. So the reader is kindly asked to consider this as an attempt to bring some order and coherence to what still seems to be a chaotic and meaningless picture.

The purpose of a semantic map is to link meanings or functions in a coherent and meaningful way: meanings (or functions) and not lexemes. Generally speaking, a semantic map should address three related issues, the first two being the preliminary steps already dealt with in the case study:

- defining the meanings of any single lexeme involved in the semantic web under consideration,
- defining how these meanings can be related to one another,
- defining how the lexemes can be linked in a network.

In our case study, the crucial issue is now how to make a link between two meanings of two different verbs. This can be made by examining semantic features that are shared by the two meanings under consideration. This of course forces us to consider a certain level of generalisation in order to be able to make comparison. For instance, as was clear in the case study, *ḏʿr* 1, *ḏʿr* 2 and *ḥḥj* 2 can be split into sub-meanings; this kind

66 First attempts were actually made in the late 1970s (see Grossman and Polis 2012, 183, for references).

67 The label "primitive" has many facets in the specialized literature. I here follow the definition given in Grossman and Polis 2012, 189. The crucial point is that a meaning can be said to be primitive if it cannot be subdivided into two (or more) meanings expressed by a corresponding number of lexical items in the language in question.

of refinement is of course useful (and necessary) for a complete semantic description of any verbal lexeme, but for the purpose of drawing a semantic map, such details can be safely ignored.[68]

The meanings of a lexeme must be arranged in such a way (1) as to allow connections with the meanings of other lexemes and (2) that there is no topological discontinuity between the meanings of a single lexeme (no "doughnut" effect).

When working with dead languages such as Ancient Egyptian, it is impossible to stick to a purely synchronic approach: (1) because of the lack of documentation, one is often forced to consider a larger corpus of data; (2) even in a delimited time span, texts that belong to different genres or registers must be regrouped. In the semantic map presented here, the arrows suggest the diachronic evolution. Integrating diachrony in a semantic map is not a problem *per se*, quite the contrary; as pointed out already by Haspelmath (2003, 233–37), and recently stressed by Grossman and Polis (2012, 192–95) for Ancient Egyptian, synchronic polysemy cannot be properly accounted for while leaving aside diachronic considerations.

As has been made clear from what precedes in the conclusions, meanings are regularly dependent on the grammatical tenses and the argument structure. I have tried to take this dimension into account in the semantic map, by a system of domains marked by different styles of outline.

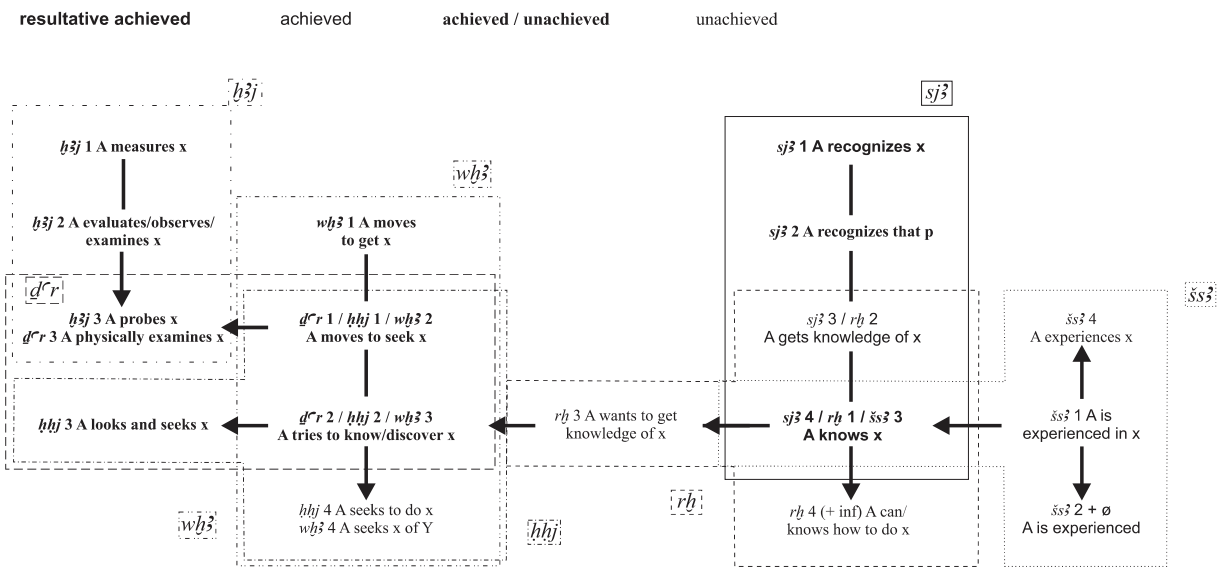


Fig. 1. A tentative map of some verbs of cognition in Earlier Egyptian

A semantic map by definition has to focus on a central concept. There are no semantic maps connecting all the possible meanings present in a lexicon. In this case study, I chose to investigate some verbs of knowing and searching. These concepts are of course very close to others, such as finding, inquiring, and so on. It is probably possible to extend this map in other directions, but one must remain conscious that such maps are two-dimensional representations. If one chooses to study verbs of perception such as verbs of hearing or seeing, which have some obvious connections with verbs expressing the acquisition of knowledge (see *rḫ* above), one would immediately shift to another plane, with another focal point in this

68 Cf. the notion of chunk of meanings as defined in Cysouw 2010, 71: "(chunks of meaning) large enough to be identifiable from reference grammars, and small enough to capture the main distinctions of the cross-linguistic variation."

multi-dimensional structure that constitutes any lexical system. In the map presented here, it would be possible (actually quite easy) to suggest possible extensions toward other semantic domains, such as that of finding, expressed most prominently in Egyptian by *gmj* (see Vernus 2012), or of hearing/seeing as regards the acquisition of knowledge, or of inquiring/asking, which can be very close to the semantic field of searching.

General processes, such as cognition but also movement, seeing or hearing, are expressed by generic verbs in (sometimes very) reduced number, and other verbs (whose number is theoretically unlimited) that emphasize a particular manner of getting knowledge, or of moving, hearing and seeing. What is interesting in this respect is that a generic verb can become a specialized verb when used in another semantic domain. For instance, as regards the acquisition of knowledge, *rḫ* can be used generically in the *jw sḏm.n=f* pattern. But *mꜣꜣ* and *sḏm* (especially the later) are also well known in this use. For instance, the phrase *jw sḏm.n=j* P "I have heard that P" is common enough in letters. In adverbial phrases, *mꜣ.n=f* is also a common variant of *rḫ.n=f* for explaining why the subject did what he did ("he did this because he had seen P"). In these cases, the presence of *mꜣꜣ* or *sḏm* only specifies how the subject got his or her knowledge. A verb such as *mꜣꜣ* in Earlier Egyptian is a specialized lexeme as a cognitive verb—that is, as far as acquisition of knowledge is concerned—but it is of course the generic verb *par excellence* for expressing the act of seeing. In this latter semantic domain, *mꜣꜣ* can be contrasted with a variety of verbs such as *ptr*, *dgj*, *nw*(*ꜣ*), etc., which express a particular way of seeing. This explains why *mꜣꜣ* and *sḏm* are generally not found with the resultative perfect—this was even fixed as a rule in Černý-Groll's Late Egyptian—but this "rule" is valid only as far as these verbs are used with their generic meaning; it does not apply when they take over subsidiary meanings as they do when they enter the semantic web of cognitive verbs.[69] This of course bears another witness to the necessity of dealing with meanings first, before proceeding to the lexemes.

69 The same of course applies for other semantic class of verbs, such as the verbs of movement, where *šm* and *jwj* act as generic lexemes (see Winand 1991) versus the dozens of verbs that express a manner of moving (flying, running, fleeing, falling, ascending, etc.).

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