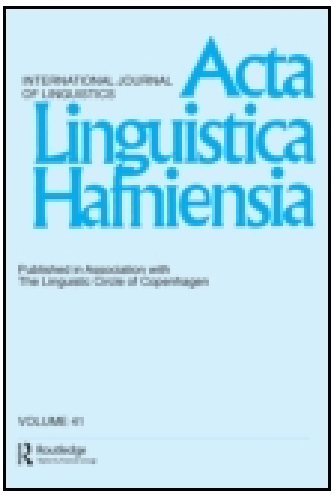

Acta Linguistica Hafniensia: International Journal of Linguistics

Publication details, including instructions for authors and subscription information:
http://www.tandfonline.com/loi/salh20

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Published online: 07 Nov 2014.

To cite this article: Eitan Grossman & Stéphane Polis (2014) On the pragmatics of subjectification: The grammaticalization of verbless allative futures (with a case study in Ancient Egyptian), Acta Linguistica Hafniensia: International Journal of Linguistics, 46:1, 25-63, DOI: 10.1080/03740463.2014.956007

To link to this article: http://dx.doi.org/10.1080/03740463.2014.956007

Acta Linguistica Hafniensia, 2014
Vol. 46, No. 1, 25–63, http://dx.doi.org/10.1080/03740463.2014.956007

On the pragmatics of subjectification: The grammaticalization of verbless allative futures (with a case study in Ancient Egyptian)

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In this paper, we argue that an expanded conception of the distinction between speaker-oriented and subject-oriented inferences is crucial for understanding the motivations and mechanisms of semantic change in grammaticalization and subjectification, on the one hand, and for clarifying the links between semantic change and reductive formal changes, on the other. Speaker-oriented inferences have significant consequences, leading to the relaxation of selectional restrictions on a construction. In turn, the relaxation of selectional restrictions can create conditions in which the type and token frequency of a construction can rise considerably. Furthermore, changes in the selectional restrictions on a construction can themselves catalyze semantic change by coercing listeners into new form–function pairings. This framework is applied to allative futures, a typological comparative concept developed in order to compare structurally diverse future tenses. Following the typological discussion, a diachronic case study of the emergence and grammaticalization of a verbless allative future in Ancient Egyptian is presented. Such verbless allative futures provide evidence against assumptions that purpose constructions as such are not grammaticalized as future tense constructions (Schmidtke-Bode 2009). Rather, they corroborate earlier hypotheses that it is the allative component of source constructions that crucially leads to intention meanings, and from intention to prediction (see, e.g., Bybee, Pagliuca, and Perkins 1994).

Keywords: grammaticalization; future tenses; pragmatic and semantic change; subjectification

1. Introduction

In this paper, we explore the relationship between grammaticalization and (inter) subjectification by addressing a crucial issue: how do the pragmatic mechanisms involved in semantic changes typical of both grammaticalization and (inter) subjectification bring about functional and formal change in constructions, specifically the relaxation of selectional restrictions on constructions? The main argument presented here is that speaker-oriented inferences made by listeners, as opposed to subject-oriented ones, are what leads to the relaxation of selectional restrictions on constructions. We also suggest that speaker-oriented inferences

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lead to a rise in type frequency and (possibly) token frequency, which in turn has consequences for the kind of formal changes often associated with grammaticalization. This has implications for a number of claims made in the literature on grammaticalization and (inter)subjectification, such as the relative importance attributed to speakers vs. listeners, as well as the status of the unidirectional process of subjectification proposed by Traugott (1995, 2003, 2007, 2010).

In Section 2 of this paper, we discuss the relation between functional and formal change in grammaticalization, proposing that the former *indirectly* motivates the latter. In Section 3, we argue for a greater role for the listener in semantic change and for an expanded conception of the distinction between subject-oriented and speaker-oriented inferences. We also explore the interaction between presuppositions and other pragmatic inferences in grammaticalization. In Section 4, a small-scale typological study of *allative futures* is presented. This study focuses on future tenses that do not involve verbs of motion or the simplification of a biclausal construction (i.e., a matrix clause + purpose clause) into a monoclausal construction involving an auxiliary and a main lexical verb. In Section 5, we investigate the emergence and grammaticalization of a verbless allative future in Ancient Egyptian: the evolution of this construction is an interesting locus for investigating the relationship between grammaticalization and some mechanisms traditionally associated with subjectification.

2. Formal and functional change in grammaticalization

Two central problems in grammaticalization studies are the following:

1. How does functional change come about?
2. How does functional (pragmatic and semantic) change correlate with formal (syntactic, morphological, and phonological) change?

We will address the second question in this section, then turn to the first question in Section 3.

There are four possible answers to the second question:

(i) There is no relationship between functional and formal change (the null hypothesis).
(ii) Formal change motivates functional change.
(iii) Functional change directly/automatically motivates formal change.
(iv) Functional change *indirectly* motivates formal change.

Answers (i) and (ii) are contradicted by empirical evidence. The first one is falsified by the fact that, in grammaticalization, functional change and formal change go together so regularly that linguists have spoken of "coevolution" of form and function (see, for instance, Emanation 1992; Bybee, Perkins, and Pagliuca 1994, 19; Lehmann 1995). The second possible answer, advocated, for instance, by Lightfoot (1991) and Warner (1993, 237–239), cannot be correct, since functional change overwhelmingly precedes formal change

(see Sapir 1921; Givón 1991, 122–123; Gildea 1997, 182; Hopper and Traugott 2003, 100). Moreover, semantic change in grammaticalization – which is highly regular, proceeding along a finite number of "pathways" (see, e.g., Bybee, Perkins, and Pagliuca 1994; Heine and Kuteva 2002) – can occur even when morphological and phonological changes do not. Answer (iii) has not often been proposed, but Rubba (1994, 81), for instance, has argued that "grammaticalization can be viewed primarily as semantic change, with formal changes typical of grammaticalization following automatically as consequences of semantic change." This claim is not supported by facts. There are plenty of instances of semantic change without subsequent formal change (see Bisang 2004, 2008). This leaves us with the claim that functional change *indirectly* motivates formal change.

In addressing the question *how* this indirect motivation comes about, we should keep in mind some robust tendencies of language change that we assume to be uncontroversial in the present paper:

(i) Semantic change in grammaticalization results from basic pragmatic mechanisms of usage (e.g., Traugott and Dasher 2002's Invited Inferencing Theory of Semantic Change [IITSC]; see Section 3). This has been described in an informal way as "semanticization", or more broadly, "the transfer of context to code" (see, e.g., Givón 2005). A widely accepted model of grammaticalization accordingly runs as follows: change of use (PRAGMATIC CHANGE) → change of meaning (SEMANTIC CHANGE) → change of form (SYNTACTIC + PHONOLOGICAL CHANGE).

(ii) After semantic change has set in, the selectional restrictions on constructions are relaxed. This is generally considered to be the result of "analogy" or "context expansion"[1] (Givón 1991; Hopper and Traugott 2003). In terms of grammatical constructionalization (Trousdale 2010; Fried 2013, 424–428), this relaxation of selectional restrictions is typified by an increase in productivity, an increase in generality, and a decrease in semantic compositionality.

(iii) Morphophonological change in grammaticalization (e.g., reduction, univerbation, etc.) is primarily the result of frequency effects (see, e.g., Schuchardt 1885; Zipf 1935; Leslau 1969; Bybee 2007, 2010; Haspelmath 2008b).

(iiia) Items with high *token* frequency tend to undergo reduction and loss of constituency structure (with semantic bleaching; see Bybee 2007, 271, on the "Reducing Effect"; see also Haspelmath 2008a on the effects of frequency on cross-linguistic patterns of asymmetrical coding).

[1] This is similar to Himmelmann's notion of "host-class expansion" (Himmelmann 2004), which has been applied to the *be going to* future in Brinton and Traugott (2005, 72–73).

(iiib) Items with high *token* frequency tend to resist regularizing change, such as analogy (Bybee's "Conserving Effect", 2010, 24–25).

(iiiic) On the other hand, items with high *type* frequency correlate with high productivity, "the likelihood that a pattern will apply to new forms" (Bybee 2007, 275; 2010, 67). Bybee (2007, 275) also suggests that high type frequency "ensures that a construction will be used frequently", which can be interpreted as meaning that it can lead to a rise in token frequency.

We hypothesize that the abovementioned principles interact in the following way: pragmatic change – especially the accumulation of speaker-oriented meanings, whether through inferencing or the breakdown of presupposition accommodation (see Section 3) – leads to the decreased compositionality of constructional meaning. This causes the relaxation of selectional restrictions on constructions, which in turn leads to a rise in type frequency, and hence productivity. A rise in token frequency may be attributable to two mutually reinforcing motivations. On the one hand, a rise in type frequency might itself lead to a rise in token frequency, and on the other, speaker-oriented meanings (see 3.1) are predicted to be more common overall than the meanings of their lexical source constructions. It is this rise in token frequency that leads to reductive morphophonological change.

This hypothesis generates the following prediction: functional change may occur, but if it does not result in a rise in token frequency, it will not lead to extensive reductive morphophonological changes.[2]

Preliminary to the question how functional change indirectly motivates formal change is the question what determines functional change, that is, how functional change comes about. We now turn to this question, focusing on a serious flaw in the predominant approaches to subjectification and semantic change in grammaticalization, namely, an overemphasis on the role of the speaker in initiating functional change.

3. The role of the listener in subjectification and grammaticalization: The Two to Tango Principle

3.1 Speaker-oriented vs listener-oriented approaches to functional change

In a series of publications (see, e.g., Traugott and Dasher 2002), Traugott and her colleagues have proposed that it is the speaker who plays a crucial role in initiating functional change, in that conversational inferences (that is, pragmatic mechanisms), which may lead to changes in coded meaning, are largely "invited" by speakers. In Traugott's approach, therefore, subjectification, as a type of

[2] Evidence supporting this prediction comes from studies on grammaticalization in East and Mainland Southeast Asian languages, e.g., Mon-Khmer, Tai, Sinitic, Hmong-Mien (Bisang 2004, 2008; Ansaldo and Lim 2004).

semantic change,[3] is also heavily speaker-oriented, since "meanings are recruited by the speaker to encode and regulate attitudes and beliefs" (Traugott 2010, 35).

It is this aspect that we would like to focus on in the present section,[4] since it is crucial for understanding the link between subjectification and grammaticalization.

Traugott's framework not only emphasizes the role of the speaker, but also explicitly downplays that of the listener in language change.[5] She (Traugott 2010, 55) states, for instance:

> A hearer/perception model explains little or nothing about why subjectification occurs at all. As speakers, we tend to understand in terms of our own schemas, so why would we constantly try to process from the perspective of the interlocutor, enrich the interlocutor's subjective perspective, and semanticize it? Furthermore, it explains nothing about why subjectification would precede intersubjectification.

While heavily speaker-oriented approaches are prevalent in historical linguistics, especially in grammaticalization studies (e.g., Keller 1994; Haspelmath 1999), they are problematic, since an inference has to be perceived and made by listeners in order for them to propagate it in their role as speakers (Hansen 2008, 100). We can call this the *Two to Tango Principle*.

Moreover, this emphasis on speakers – specifically, speaker intentions – is in conflict with a well-established body of research that indicates the centrality of the listener as the locus of "signal misinterpretation" (Donegan 1993) in other domains of language change, most notably sound change. For example, Ohala has argued in a number of publications (e.g., Ohala 1981, 1993) that speaker-produced variation provides the raw materials for sound change, but that it is listeners' interpretation or misinterpretation of acoustic signals that results in sound change.[6] Outside of the realm of sound change, Givón (1991) and Bybee, Perkins and Pagliuca (1994) have emphasized the role of listener (mis)interpretation in language change.

The importance of the listener for language change has been reaffirmed in recent research on pragmatics. For example, Schwenter and Waltereit (2010, 77) propose that:

[3] The notion of *subjectification* – unlike *subjectivity* – has a relatively short history in linguistics. Convenient overviews of the two main lines of thoughts – namely that of Traugott and that of Langacker – are found in Cornillie 2007. Surveys of current issues are in Athanasiadou, Canakis, and Cornillie 2006; De Smet and Verstraete 2006; and Cuyckens, Davidse, and Vandelanotte 2010. The present study falls within the pragmatically, textually, and diachronically oriented approach developed by Traugott and others.

[4] In the case study of Section 5, on the other hand, we will focus more specifically on the mechanism of subjectification itself, by describing the rise of speaker-oriented inferences and the retraction of subject-oriented ones that we consider to be the underlying process of subjectification.

[5] We use the term "listener" rather than "hearer" in order to emphasize the active role of the addressee.

[6] See Lindblom, MacNeilage and Studdert-Kennedy (1984) and Lindblom et al. (1995) for a slightly different approach, which admits most of Ohala's points but attributes a somewhat greater role to speakers.

> [h]earers have a clear 'regulatory' role in innovation, as their ability, or willingness, to follow speakers' innovations places a cap on an innovation's likelihood to be propagated in the linguistic community. However, the contribution that hearers make to semantic change is not limited to constraining speakers' creativity. Hearers can indeed have a very active role in that process, namely by assigning novel interpretations to forms, constructions, or utterances they hear and by using these interpretations in their own subsequent use as speakers.

Furthermore, Detges and Waltereit's (2002) "Principle of Reference" and Eckardt's (2009) "Avoid Pragmatic Overload" principle also assume a crucial role for the listener in assigning novel form–function pairings. The former proposes that listeners assume that the conventional semantics of an expression is the meaning of the expression in context. The latter argues that presupposition failure can play a role in speaker-induced semantic change, claiming that "the hearer, confronted with [an utterance that has implausible presuppositions], has to make a guess what the speaker might have wanted to express" (Eckardt 2009, 36).

3.2 Speaker-oriented vs. subject-oriented inferences

Unlike Traugott's theory, the account of pragmatic inferencing in Bybee, Perkins, and Pagliuca (1994) does not overemphasize the role of the speaker. Rather, it tends to emphasize the role of the listener as responsible for innovative interpretations.[7]

In discussing the role of listener in the process of inferencing, Bybee, Perkins, and Pagliuca (1994) make a distinction that is crucial for understanding the pragmatic mechanisms involved in both grammaticalization and subjectification, namely, the distinction between *speaker-oriented* and *subject-oriented inferences*. Speaker-oriented inferences are those in which the listener infers that the speaker is talking about his or her state of mind or view of the event rather than that of the subject (subject-oriented inference).[8]

We would like to expand on the distinction between speaker-oriented and subject-oriented inferences and to sketch some of its consequences.[9] First of all, and most importantly, *speaker-oriented inferences consistently reflect a less compositional meaning than subject-oriented ones*, whereby a compositional meaning is defined as predictable from its parts (Goldberg 1995). The consequences of this observation for semantic change in grammaticalization are

[7] See e.g. their account of the development of the English *going to* future (Bybee et al. 1994, 288).

[8] Curiously, this difference, which can be traced back to Benveniste's (1966) distinction between the speaking subject (*sujet d'énonciation)* and the grammatical subject (*sujet de l'énoncé*), has been downplayed in Traugott's approach, as she considers it to be relevant primarily for "raising constructions", such as the abovementioned *going to* future (see, e.g., Traugott and Dasher 2002, 98).

[9] Speaker-orientation is a crucial dimension of Narrog's (2005, 2007, 2010) approach to (inter)subjectification. The relation between Narrog's speaker-orientation and the speaker-oriented inferences argued for in this paper are discussed in footnote 49.

considerable. Inferences that reflect a less compositional meaning are not constrained by the same selectional restrictions as the earlier, more compositional meaning. For example, if we take the sentence *Sebastian is going to move to Berlin*, a listener can make (at least) two inferences:

(i) The speaker is reporting on the *intentions* of the agentive subject = *subject-oriented inference*.
(ii) The speaker is reporting on his or her *prediction* of what will come to pass = *speaker-oriented inference*.

The interpretation reflected by the speaker-oriented inference is less compositional than that reflected by the subject-oriented inference. This correlates with a significant difference in the selectional restrictions on the construction. Interpretation (i) requires an agentive subject capable of intentional action, while interpretation (ii) does not. As a result, if the listener, in his or her turn as speaker, replicates the construction with the new, less compositional meaning, he or she is not constrained by the selectional restrictions of the older construction. In effect, this leads over time to the relaxation of selectional restrictions on a construction, and the occurrence of new types of elements (subjects, predicates, etc.): *She's going to sit there and cry* (static predicate); *The volcano is going to erupt/It's going to rain* (non-agentive/non-intentional/control-less subject).[10]

3.3 An example of the two types of inference: From "finish" verbs to "perfect"

As an example of the interaction between the two types of inferences, let's take a common pathway of grammaticalization, namely, from FINISH to ANTERIOR ("perfect") (see Bybee, Perkins, and Pagliuca 1994, 69–70, 104–105; Heine and Kuteva 2002, 134–137; Grossman 2009). In a case study dealing with the cyclical grammaticalization of "finish"-source perfects in Egyptian and Coptic, Grossman (2009) shows that the gradual relaxation of selectional restrictions is crucial for the grammaticalization of the constructions. In this pathway, the main changes, at least, the ones that are relevant to cross-linguistic comparison, involve the loss of selectional restrictions on the subject and the predicate. An important notion is that of subject control: "finish" lexical verbs prototypically require a volitional agentive subject that has and exercises control over a dynamic event. Perfects, on the other hand, do not have any such selectional restrictions. However, it turns out that in the case of Coptic, the loss of subject control and the opening up of the construction to new types of subjects and predicates does not happen in a single jump, but rather in a gradual series of changes.

[10] The terms *subject* and *predicate* are meant to refer to entities and events to which the grammatical subject and predicate, respectively, refer.

The pathway of semantic change can be represented schematically in the following way, with (a) and (b) representing different readings of a single utterance.

Stage 1. The construction is restricted to agentive subjects, and to predicates that allow an agentive subject to exercise control over a process and bring it to an end.

(a) John finished building the house.

Stage 2. An agentive subject has but does not necessarily exercise control over a process. Here we find bridging contexts in which subject control may be present but is not especially salient. This allows listeners to infer that subject control is not a necessary part of the constructional meaning. Subject-oriented inferences compete with speaker-oriented ones, in which the listener infers that the speaker is talking about the end of the event as a whole, rather than reporting on the actions of the subject.

(a) They finished mocking him.
(b) They had mocked him.

(1) Coptic, Bohairic dialect (Matthew 27:31)
eta-u-ouô *e-u-sôbi* *mmo-f*
CVB.PFV-3PL-finish\INF CVB.IPFV-3PL-mock\INF OBJ-3SG.M
'After they finished mocking him'

Stage 3. The subject is *potentially* agentive, but a control reading is blocked by the predicate type. This stage is made possible by the presence of speaker-oriented inferences at Stage 2.[11]

(a) ~~John finished dying.~~
(b) John had died.

(2) Coptic, Bohairic dialect (John 19:33)
eta-u-nau *ce-a-f-ouô* *e-f-mou*
CVB.PFV-3PL-see\INF that-AUX:PRF-3SG.M-finish\INF CVB.IPFV-3SG.M-die\INF
'When they saw that he was already dead'

[11] Stage 3 probably involves Eckardt's (2009) "Avoid Pragmatic Overload" (APO) principle rather than other types of inferences (see Section 3.1), as there is already a semantic incompatibility with the lexical restrictions imposed by the source construction: it is the fact that the relaxation of the selectional restrictions on the construction cannot be accommodated that coerces the listener into a new form–function pairing. This scenario provides an interesting glimpse of the possible interaction between presupposition accommodation and other types of pragmatic inferencing, e.g., implicatures, in semantic change: it may be that other types of inferencing are more prominent at the beginning of semantic change, while APO kicks in when enough speaker-oriented inferences have accumulated and led to the relaxation of selectional restrictions on a construction.

Stage 4. Non-agentive subjects occur, with the perfect inference being the only one available.

(a) ~~The end finished coming.~~
(b) The end has come.

(3) Coptic, Bohairic dialect (John 16:32)
a-s-ouô *e-s-i*
PST-3SG.F-finish\INF CVB.IMPV-3SG.F-come\INF
'It (viz. 'the time') has already come.'

The pathway illustrated here shows that while meaning can become increasingly speaker-oriented over time, resulting in subjectification, the role of the speaker him-/herself can be quite limited. One can compare the role of the speaker in this domain to his/her role in sound change: the speaker need not "invite" an inference for it to be made – all one needs is a potentially truth-compatible and not necessarily speaker-intended inference to be available as a result of the lexical meaning of the parts of a construction and their collocation in discourse (Ariel 2008). As noted above, the wide cross-linguistic recurrence of certain pathways may indicate that the kinds of inference that are especially important in grammaticalization are truth-compatible, non-speaker-intended rather than invited inferences.

Before moving on, we would like to point out that the spread of a construction to new types of, for instance, subjects and predicates is normally attributed to analogical extension, and left at that. We think that the account proposed here either renders explanations from analogy unnecessary, or motivates them. As we see it, analogical extension is made possible because the new meanings do not impose the same restrictions on subjects and predicates that the older meanings do. This appears to be a better explanation than simple analogy, because one would expect analogical change to apply more or earlier to *less* frequent items, and constructions that undergo grammaticalization would be expected to increase in token frequency. Moreover, there is not always a clear "template" or target for analogy, since entirely new categories (e.g.,definite articles) can emerge via grammaticalization.

The account sketched here provides a principled way to explain some phenomena related to grammaticalization, such as the differential semantic changes observed across person paradigms. For example, first-person futures are often conservative in their semantics, since hearers have no reason to infer a difference between a speaker's report of his/her intention to carry out an action, on the one hand, and a prediction of his/hers that the state of affairs will come to pass, on the other. This difference is salient, however, for second- and third-person subjects (see the case study in Section 5.3).

To recapitulate, we propose that speaker-oriented inferences lead to the relaxation of selectional restrictions on constructions, which in turn leads to a rise in type frequency. We hypothesize that a rise in type frequency, as well as speaker-oriented meanings themselves, can lead to a rise in token frequency, which in turn creates conditions for reductive morphophonological changes to occur.

We will now turn to the second part of this paper, which explores the ideas proposed above. Section 4 is devoted to a pilot typological study defining the cross-linguistic comparative concept of *allative future*; Section 5 is a corpus-based diachronic study of the emergence and subsequent grammaticalization of a verbless allative future in Ancient Egyptian.

4. Towards a typology of allative futures

According to numerous typological studies (e.g., Bybee and Pagliuca 1987; Bybee, Pagliuca, and Perkins 1991; Bybee, Perkins, and Pagliuca 1994, 243–280; Dahl 2000a, 313–318; Heine and Kuteva 2002, 331), a relatively limited set of pathways is documented cross-linguistically for the development of primary future tenses (see Figure 1).[12] A prominent type of source construction for primary futures involves movement verbs. Other well-attested sources involve agent-oriented modal constructions (mostly those that express volition, obligation and, to a lesser extent, ability) and temporal adverbs.

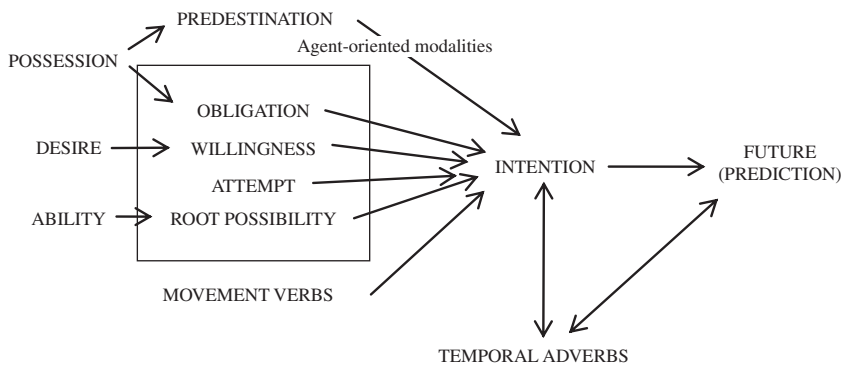

Figure 1. Pathways for the development of future tenses (synthesis of Bybee, Pagliuca, and Perkins 1994).

The hypothesis advanced in Bybee, Perkins, and Pagliuca (1994, 279–280) predicts that intention is the crucial bridge to prediction, a meaning that characterizes any fully grammaticalized future tense.[13] If this hypothesis holds,

[12] We exclude from the present treatment aspectual source constructions (whether they are encoded morphologically or syntactically) for future tenses. Indeed, generalizations about the grammaticalization pathways that they follow are still problematic (see, e.g., Hilpert 2008a, 27).

[13] All future constructions that can convey prediction-based future time reference may of course preserve earlier meanings. Accordingly, long arguments regarding the division of labor between temporal, modal, and aspectual meaning are often fruitless and one should not expect to find purely monosemous futures that do not have, for instance, associated modal meanings. On this point, Hilpert's criticism (2008a, 26–27; 185–186) of the "Futages" hypotheses of Bybee, Perkins, and Pagliuca (1994, 279) is probably excessive.

the most common source constructions for future tenses are therefore typologically expected to be those that yield "the intention inference most easily – desire, strong obligation, and movement towards a goal".

Crucially, not only motion verbs are possible candidates for grammaticalization as future tense, but any allative source construction, i.e., any construction that encodes purpose or spatial goal (see Section 4.2). These different types of future tenses can be subsumed under the comparative concept of *allative future*. Following Haspelmath's (2010, 665) definition of comparative concepts as "concepts created by comparative linguists for the specific purpose of cross-linguistic comparison"), we define allative futures as follows:

> An allative future is any future tense that is grammaticalized from an allative source construction, and in which the element that marks the future also synchronically marks at least some typical allative meanings, especially purpose or spatial destination.

4.1 The types of allative futures

As shown in Figure 1, a cross-linguistically common type of source for future tenses is verbal constructions encoding telic motion (e.g., Hopper and Traugott 2003). Both venitive verbs (examples (4)–(5); see also Heine and Kuteva 2002, 75–78) and andative verbs (examples (6)–(8)) verbs are well-attested:

(4) Romansch (Rhaeto-Romance, Switzerland/Oberengadin; Dahl 2000a: 321)
a vẹñ a plɔ̄vɛr
it come.PRS to rain.INF
'There is rain on the way / it will rain.'

(5) Swedish[14] (North Germanic, Sweden; Dahl 2000b: 353 and Hilpert 2008a: 127)
Barnen kommer att vara mycket sömniga när pappa kommer.
children come.PRS INFM be.INF very sleepy when father come.PRS
'The children will be very sleepy when father arrives.'

(6) Mauritian Creole (Mauritius; Véonique 2009, 42)
mo va manzé
I FUT eat
'I will eat.'

(7) Hausa (Chadic, Nigeria et al.; Abdoulaye 2001, 8)
a. *zâa su sàyen gooɾ̂ò gúje*
go 3PL buying.of kola.nuts running
'They are running (somewhere) to buy kola nuts.' (motion with purpose)

[14] "The original form of the construction in Scandinavian (preserved in Norwegian and Danish and attested in older Swedish)" uses an allative preposition *til(l)* for introducing *att* + infinitive (Dahl 2000a, 320; see also Hilpert 2008a and 2008b, 116).

b. *zâa ta taashìi wajen ƙarfèe shiddà*
FUT 3SG.F waking.up around o'clock six
'She will wake up around 6 o'clock.' (future)

(8) Tzotzil (Maya; Mexican state of Chiapas; Schmidtke-Bode 2009, 182; Aissen 1994, 219)
ch-ba tal-uk
INCOMPL-go come-SBJV(3SG)
'It's going to come.' (future)

It has been argued by Bybee, Perkins, and Pagliuca (1994) that two important parts of the meaning of such future constructions are:

(i) the *allative component*: "simple movement does not evolve into future. To derive future, there must be an allative component, 'movement towards', either inherent in the semantics of the verb or explicit in the construction" (1994, 268) (see also Bybee, Pagliuca, and Perkins 1991, 30);
(ii) the *imperfective or progressive component*: "[a]nother important part of the meaning is that the agent is already on the path and the movement is in progress; thus the overt or inherent aspect of the construction is progressive, present, or imperfective" (1994, 268).

Even if they acknowledge the fact that "[n]either allativity nor imperfectivity need be overtly marked" (1991, 30), Bybee, Pagliuca, and Perkins' generalization regarding the second component of movement-based futures has turned out to admit exceptions.[15]

Accordingly, the allative component, i.e., orientation towards a goal, appears to be the one that plays the central role in the development of such motion-verb constructions into futures.[16] As such, one can make the following prediction: if the centrality of the allative component in the grammaticalization of future tenses proves to be right, then we expect to find future tenses that have been grammaticalized out of allative constructions with no *explicit* motion component, such as a verb of motion, but rather with another type of allative marker. In the following sections, we will discuss two such allative futures.

4.1.1 Revising some COPULA > FUTURE *pathways*

One type of future tense that has not grammaticalized from a source construction with an explicit motion component has, in the literature, been categorized as involving a COPULA > FUTURE pathway (see Heine and Kuteva 2002, 97):

[15] For two counterexamples, see Coghill (2010) on Neo-Aramaic and Abdoulaye (2001) on Hausa.
[16] See the *hypothèse allative* in Lansari (2009, 17–19).

(9) Mongolian (Mongolic, Mongolia; Binnick 1976, 43)
ter alxax (*bajna*)
he to.walk (is)
'He will walk.'

This categorization, while possible, is not especially illuminating, as Heine and Kuteva (2002, 97) admit: "The conceptual nature of the present process is far from clear. More data, especially from other languages, are required."

We think that the reason for this lack of clarity is an over-emphasis on the development of lexical items (especially verbs, in the present context) into grammatical markers, rather than on constructions. It is not obvious why a copula should develop into a future marker, but it is relatively clear why a construction marking the predication of a goal or purpose could develop into a future tense construction.

While more evidence is needed, we think it is plausible to think that copulas (that is, those that cannot be used as aspectual auxiliaries) do not grammaticalize into future tense markers unless there is an allative component elsewhere in the construction.

Future-oriented constructions that are built on the pattern COPULA + ALLATIVE ADPOSITION have of course been acknowledged in the typological literature (e.g., Bybee, Perkins, and Pagliuca 1994, 249–250), but the quoted examples are usually *expected* or *scheduled* futures (prearrangement, predetermination) rather than fully grammaticalized predictive futures.[17]

(10) English (Shephard 2003, 204)
One of the boys claimed out is one of our best scouts but he is to go just the same although he was very loathe to leave us.

Such English constructions, particularly when no temporal adjunct is expressed, often have an obligation flavor (suitability, indirect command), especially since the subject might clearly have no intention or willingness to act; it may not even have control over its actions. Other specific grams, like the derivational affix *sussa* 'is to', in West Greenlandic, can express similar meanings, even if it is not usually described as a copula:

(11) West Greenlandic (Eskimo-Aleut, Greenland; Fortescue 1984, 292)
aqagu *avalat-tussaa-vunga*
tomorrow go.to.Denmark-is.to-1SG.IND
'Tomorrow, I am to go to Denmark.'

[17] The English *is-to* + INFINITIVE construction "refer[s] either to events which are expected to occur in the near future, or to those which have been pre-arranged" (Bybee, Perkins, and Pagliuca 1994, 249–251). On the formal, semantic, and pragmatic properties of the *is to* construction in English, see Goldberg and van der Auwera (2012).

However, the semantics of the future-oriented constructions that involve both a copula and an allative marker is not limited to scheduled/expected futures. In Kolyma Yukaghir, for example, the auxiliary *l'e* 'to be', when combined with the purposive Supine form of the verb (Schmidtke-Bode 2009, 181), yields a prospective meaning:

(12) Kolyma Yukaghir (Yukaghir, Uralic, Russia; Maslova 2003, 179)
Čarčaqan d'e tet-ul lek-tin l'e-je
C. PTCL you-ACC eat-SUP/PURP be-INTR.1SG
'Charchahan, I am going to eat you.'

The construction "implies that some preliminary features of the foregoing event are already present. As a result, this form can be used to refer to a process in progress, whereby the first stage of the event has already started" (Maslova 2003, 178).[18]

In European Portuguese, a predicative adpositional phrase introduced by *para* 'for' can be used in order to express immediate futurity:

(13) European Portuguese (Indo-European, Portugal; Hagège 2010, 100)
ele está para chegar
3SG.M is for arrive
'He is about to arrive.'

Beyond the prospective constructions, other languages have grammaticalized a fully-fledged future out of a COPULA + ALLATIVE ADPOSITION source construction. In Mansa' Tigré such a future construction based on an allative preposition *ʔəgəl*[19] + Subjunctive + Copula seems to be gaining ground at the expense of the imperfect as the typical expression of futurity. Compare:[20]

(14) Tigré (Semitic, Eritrea)[21]
ʔətta maḥāz ʔəgəl təḥassab wardat
to.the river ALL wash:3.FSG.SBJV she.went.down
'She went down to the river in order to wash.'

faǧər baṣʿə ʔəgəl-nigis-tu
tomorrow Massawa ALL-we.go.SBJV-it.is
'Tomorrow we will go to Massawa.'

4.1.2 Allative futures without verbs of motion or copulas

An additional type of allative future involves the direct predication of an allative construction, without verbs of motion, copulas, copula-like expressions, or verbal

[18] Actually, based on the examples quoted in Maslova 2003, the progressive aspect might result from an inference based on the combination of a prospective construction and a telic verb in past contexts.
[19] This marker is also used for introducing adverbial clauses of purpose or result and as an infinitive marker; see Raz 1983, 92.
[20] For the expression of "definite futures" based on PURPOSE + COPULA as an areal feature in Ethiopia, see Raz 1983, 68–69.

auxiliaries of various sorts. We refer to such constructions as non-verbal, since the predication is not encoded or "anchored" by an explicit verb but rather by the construction as a whole. This type of construction is important for the typology of allative futures, since they bear directly on assumptions made regarding the grammaticalization pathways involved.

In French, such constructions are usually interpreted as being optative or jussive:

(15) French
les canots à la mer!
the:PL dinghies to the:SG.F sea
'The dinghies to the sea!'

This construction coerces an allative reading, even when the prepositions involved are neutral with respect to a locative/allative distinction. A similar construction is found in colloquial Modern Hebrew (16). Unlike French, Modern Hebrew allows verbal lexemes to be used after the allative preposition (17).

(16) Modern Hebrew (Semitic, Israel)
kulam l-a-ʃulxan!
everyone to-the-table
'Everyone to the table!'

(17) Modern Hebrew (Semitic, Israel)
kulam liʃon
everyone to.sleep
'Everyone to sleep!'

In colloquial Russian, a similar construction has movement as a prominent inference. However, movement is not the only available inference, and the constructional meaning is not limited to directive modality:

(18) Russian (Pavel Ozerov, p.c.)
(Security guard to visitor at university)
ty kuda?
2SG.NOM where.to
'Where are you (going) to?'

ja v universitet
1SG.NOM to university:ACC.SG
'I (am going) to the university.'

In colloquial Russian, future time reference is not the only possible reading. As illustrated by example (19) – taken from a folk-tale[21] – the construction can encode directed movement in the past, present, and future:

[21] Tamara Gabbe, ed., "Story about Volokita" (http://www.chukfamily.ru/Humanitaria/Gabbe/Volokita.htm).

(19) (context: A man came to the devil to borrow money until the next day. The devil says:)
nynče *ty* *ko* *mne,*
nowadays 2SG.NOM to 1SG.DAT
"'Today you (come) to me,

zavtra *ja* *k* *tebe*
tomorrow 1SG.NOM to 2SG.DAT
tomorrow I (am going to come) to you.'
(The next morning the devil comes to the man, saying: "'Hey, brother,')

včera *ty* *ko* *mne*
yesterday 2SG.NOM to 1SG.DAT
"'Yesterday you (came) to me,

nynče *ja* *k* *tebe*
nowadays 1SG.NOM to 2SG.DAT
now I (come) to you.'

The point is that both motion and future reference are prominent inferences associated with this construction type, but other inferences are also possible.

In some languages, SUBJECT + ALLATIVE MARKER + VERBAL PREDICATE constructions – with no copula overtly expressed – have grammaticalized into future tenses. In the material of this pilot study, such constructions display various degrees of entrenchment in the Tense–Aspect–Modality (TAM) systems.

In Mauritian Creole, for instance, a goal-marking construction *pou* + VERB (cf. French *pour*) has developed into a future tense. At present, the *pou* + VERB construction tends to compete in a broadening range of contexts with the older future construction *a/va* (etymologically 'to go', see (6)):

(20) Mauritian Creole[22] (Mauritius; Véronique 2009, 42–43)
dan *trwa* *mwa* *nou* *pou/pe* *al* *etazini*
in three months we to/after go United.States
'In three months, we will go to the States.'
Li *pou/pe* *vini* *tanto*
he to/after come afternoon
'He is going to come this afternoon.'

In Minangkabau, *ka* – a general allative marker also used to encode spatial goals (21a) or purpose clauses – participates in an allative future construction (21b):

[22] A construction like *je suis pour avoir* "I am going to have (lit. I am to have)" used to be productive in French (see Gougenheim 1971, 99–100, for attestations in seventeenth-century grammars).

(21) Minangkabau (Austronesian, Indonesia; Crouch 2009)[23]
a. *bisuak datanglah ka rumah den*
tomorrow come:IMP to house 1SG
'Tomorrow, come to my house.'

b. *aden ka jadi marapulai*
1SG to become bridegroom
'I'm going to be a bridegroom.'[24]

Beyond future time reference, the construction with the allative preposition *ka* in Minangkabau can be used with prospective meaning in past contexts:

(22) *pak tani ko ka maambiak Kancia*
father farm DEM.PROX to ACT-take Mousedeer
ko ka didabiah
DEM.PROX to PASS-slaughter
'The farmer was going to take Mousedeer to be slaughtered.'

Much the same comment holds for the Ancient Egyptian allative future construction that we discuss in detail below (Section 5). Before it was fully grammaticalized as a future tense, an infinitival construction headed by the allative preposition *r* could be used predicatively with prospective meaning in past contexts:

(23) Middle Egyptian (Dunham 1967, 34 & pl. 25.b)
iw=tw r gm.t mw r sʒwt ỉšmk
AUX=one to find\INF water to sail.along\INF Ishmuk
'One was to find (navigable) water to sail along Ishmuk.'

In the following section, we will discuss some formal features associated with allative future constructions (Section 4.2), and then move on to some implications for our understanding of the grammaticalization pathways involved (Section 4.3).

4.2 The formal features of allative future constructions

The justification for including the quite disparate constructions of, for instance, Swedish, Romansh, Mauritian Creole, French, English, Neo-Aramaic, Tzotzil, Tigré Kolyma Yukaghir, Mongolian, Minangkabau and Ancient Egyptian under the same roof, so to speak, is that they all match the definition of allative futures as a comparative concept.

[23] These examples are from folktales collected by fieldworkers of the Max Planck Institute Field Station in Padang.
[24] This example shows that the construction can encode purely predictional (non-intentional) first-person subjects, which is considered a sign of advanced "Futage" (Bybee, Perkins, and Pagliuca 1991; 1994, 279).

		TYPES OF ALLATIVE CONSTRUCTION										
		venitive		*andative*				*copula*			Ø	
		Swedish	Romansh	Mauritian Creole French	English	Neo-Aramaic	Tzotzil	Tigré	Kolyma Yukaghir	Mongolian	Minangkabau	Ancient Egyptian
Tense/aspect of the AUX	IMP[1]	√	√	√	√	–	√	√	√	(√)		
	other	–	–	–	–	√	–	–	–	–		
Explicit non-verbal allative marker[2]	yes	(√)	√	–	√	–	√	√	√	√	√	√
	no	√	–	√	–	√	–	–	–	–	–	–
Verb lexeme: person marked	yes	–	–	–	–	√	√	√	–	–	–	–
	no	√	√	√	√	–	–	–	√	?	√	√

Figure 2. Formal features of the allative source constructions for future tenses.
[1]The label IMPerfective is used as a cover-term for any tense and/or aspect described as present, imperfective, or progressive. [2]This issue is somewhat complicated by the fact that the loss of compositionality of the construction in some cases led to the reanalysis of the etymological allative marker as part of the auxiliary (most famously in English). However, the comparative concept proposed here refers to source constructions, which in the cases we discuss are known.

This is not to say that they are structurally identical. On the contrary, a number of typologically significant differences can be pointed out between them, in terms of language-specific descriptive categories (Figure 2).

The first structural difference is that the allative constructions can be built with or without a verb of directed motion. In the first case, the allative semantics of the movement verb appears to play a crucial role, which in turn explains the following facts:

(i) Both venitive and andative verbs are well-documented as predicates in the source constructions that grammaticalized into the expression of future time reference. While this is definitely not a novel observation, it is important to note that the two types of oriented motion with respect to the position of the deictic center are possible.[25] What is crucial for a construction to be able to evolve in a future construction is the orientation towards a (spatial or conceptual) goal.

(ii) Even if the overt or inherent aspect of the allative verb is generally progressive or imperfective (or a present form), this need not be etymologically the case, as shown by the verbal auxiliaries in Hausa (Abdoulaye 2001) and Neo-Aramaic (Coghill 2010).

(iii) When allativity is encoded by the verbal element, it need not be co-encoded by an extra allative marker.[26] Neo-Aramaic and French are

[25] There is a vast body of literature on the deicticity of "come" and "go" verbs. One seminal text is Fillmore's 1971 Santa Cruz lectures on deixis (reproduced by Indiana University Linguistics Club in 1975) and published as Fillmore 1997.
[26] See Bybee, Perkins, and Pagliuca (1994, 268). For some venitive futures without overt allative marker in African languages, see the examples quoted by Welmers 1973, 352–355.

cases in point.[27] Note that the source construction may lose this overt allative marker in the grammaticalization process, as was the case in Swedish with the preposition *till* (see footnote 14).

When no verb of motion is an element of the allative constructions, the semantic predicate of the construction is necessarily marked by an *overt* allative marker: the orientation toward a goal is necessary for a construction to match the comparative concept of allative future.[28] Besides this necessary condition, the construction can have a copula overtly expressed or not.

These observations appear to bear witness to the centrality of the *allative component*,[29] and not only motion, in the grammaticalization of future tenses out of goal-oriented constructions.[30]

4.3 Typological implications resulting from the existence of verbless allative futures

The future constructions in Mauritian Creole, Minangkabau, and Ancient Egyptian provide evidence against the argument recently put forward by Schmidtke-Bode (2009, 181) in his typology of purpose clauses:

[27] Givón (1973, 910): "One should also note that, in some languages, *come* and *go* do not appear as lexical items without incorporating the presuppositions and implications of either *to* or *from*."

[28] This overt marking can be in the form of a subjunctive or subjunctive-like finite form, as long as it can be used as a purpose clause.

[29] This was suggested long ago by Givón (1973, 919) in a discussion of the possible grammaticalization of "come"-like verbs both into future grams and (recent-)past grams, when combined respectively with an allative adposition and an ablative one. Bybee, Pagliuca, and Perkins (1991, 30) restated this observation when arguing that they "would not expect a motion verb with ablative component or perfective marking to develop a future reading". A strong formulation is found in Kuteva (2001, 22): "it is always a *goal*-oriented movement verb structure that turns into auxiliary structure. Thus, whereas *go to* + *Noun Phrase* → *go (to-)future* and *come to* + *Noun Phrase* → *come (to)-future* are attested as auxiliation paths, no lexical structure *go from* + *Noun Phrase* or *come from* + *Noun Phrase* has developed into a future construction."

[30] Whether all the future source constructions with an allative component follow a similar pathway of grammaticalization remains to be investigated (for the grammaticalization of motion verbs with purpose clauses into future tenses, see the recent schema in Schmidtke-Bode 2009, 184). Bybee, Perkins, and Pagliuca (1994, 254) hypothesize that grammaticalizing futures must express intention before prediction (the process labeled *temporalization* by Fleischman 1983). Given the structural and semantic differences between the source constructions for allative future tenses, as well as the different grammatical systems of opposition in which they emerge (especially with the existence of older grammaticalized construction(s) for the expression of future time reference), we think that this hypothesis bears further empirical investigation. In a forthcoming study, we argue that different grammaticalization pathways can be followed respectively by venitive, andative, and verbless allative constructions, but that the actual pragmatic mechanism that leads to their use as future constructions is strikingly similar: in all cases, we observe a process of subjectification, with the semanticization of speaker-oriented inferences and the retraction of subject-oriented ones.

> It should be emphasized again that such changes do not imply that purpose clauses or markers develop into future time markers; rather, purpose clauses only provide the constructional environment which, if combined with a suitable main verb sense such as motion or activity in progress, can invite a semantic and structural reanalysis of the complex sentence.

If our understanding of the future constructions presented in Section 4.1.2 is on the right track, the presence of an allative component in the construction is sufficient for a construction to be able to grammaticalize into a future tense.

Furthermore, one should stress that these verbless allative constructions do not involve a diachronic simplification of a *biclausal* structure into a *monoclausal* one. In this, they differ sharply from the usual analysis of futures that develop from constructions involving a matrix verb (e.g., of motion) and a purpose clause, such as the English *going to*-INFINITIVE construction. These verbal allative future constructions are considered "raising" constructions, specifically, as subject-to-subject raising constructions:[31]

(24) English (Traugott 2010, 33)
  a. I am going to visit the prisoner. (context = motion-*cum*-purpose)
  b. I am afraid there is going to be such a calm among us.

The allative construction in (24a) refers to an actual movement with the purpose of carrying out an action; volitional subjects have intentions and exercise control on the predicate. In (24b), the speaker predicts that something is going to happen and the grammatical subjects of the constructions do not exercise any kind of control over the event expressed by the predicate.

We argue here that this "raising" phenomenon is best explained as resulting from the accumulation of speaker-oriented inferences and the retraction of subject-oriented ones, leading to the semanticization of the speaker-orientation characteristic of subjectification (Traugott 1989, 31).

In the next section we provide empirical evidence that corroborates this claim by analyzing the emergence and grammaticalization of a verbless allative future in Ancient Egyptian, based on an examination of the entire corpus of attested texts in Early Egyptian.

5. The Ancient Egyptian allative future

In this section, after a brief characterization of the Ancient Egyptian language and corpus (Section 5.1), we introduce previous accounts about this future construction (Section 5.2) and we suggest an alternative view (Section 5.3): diachronic evidence suggests that the Ancient Egyptian allative future is perhaps better not described as a DEONTIC future, but as a future that follows the pathway VERBLESS

[31] Such constructions have been acknowledged as "subjective" expressions in other frameworks (see, e.g., Langacker 1990, 23), since "the 'speaking subject' differs from the syntactic subject" (Traugott 2010, 33).

ALLATIVE > INTENTION > FUTURE. The concluding remarks (Section 5.4) are devoted to a discussion of the possible impact that the study of the evolution of this construction has for the notion of subjectification insofar as it intersects with grammaticalization processes.

5.1 The Ancient Egyptian language and corpus

Ancient Egyptian is a language that belongs to a relatively autonomous branch of the Afroasiatic macro-phylum (see Loprieno 1995, 1–10).[32] It was spoken in Egypt and recorded in written form from around 2700 BCE to some time after 1200 CE, when speakers shifted to Arabic. Traditionally, Ancient Egyptian written documentation is divided into five different phases: Old Egyptian (2700–2200 BCE), Middle Egyptian (2150–1400 BCE), Late Egyptian (1400–700 BCE), Demotic (700 BCE–500 CE), and Coptic (400–1200 CE). In the present paper, we will be dealing only with the first three stages, i.e., from Old to Late Egyptian, which span a period of over 2000 years.

The use of Ancient Egyptian linguistic data has at least three significant advantages when dealing with notions such as grammaticalization and subjectification: first, the extent of the period covered allows for the study of long-term processes of language change, including numerous linguistic cycles. Second, the language is attested in a wide variety of text types and genres, which means that long-term processes of language change can be mapped onto synchronic systems in which various types of diaphasic, diastratic, and diatopic variation are symptomatic of the gradual evolution of language structure (Traugott and Trousdale 2010). Third, most studies on subjectification are based on data from English, French, Dutch, German, Japanese, and Spanish, but grammaticalization and subjectification still have to be explored for languages from other families and areas.[33]

5.2 Previous accounts about the semantics of the allative future

In Section 4.1.2, we discussed a first example (23) of an Ancient Egyptian future tense that grammaticalized from an allative source construction. This new future construction emerges alongside an older synthetic future form – called

[32] For recent overviews of the main Egyptian connections with other languages, see Satzinger 2002 and Vernus 1988, 2010.

[33] This lacuna is addressed in part by this volume and its companions. The use of a culturally alienated text language (Fleischman 2000) such as Ancient Egyptian for studying questions intimately related to pragmatic inferences and their conventionalization is arguably as legitimate as it would be with any other (text) language: we are not relying on intuitions about meanings in context. There are changes in semantic and formal properties of the constructions, e.g., their selectional restrictions, that provide important and relatively objective information about the meanings associated with constructions. Assuming the Uniformitarian Principle, these changes can be taken to result from the same processes of language change that apply to contemporary languages.

"prospective" in the Egyptological literature (Loprieno 1995, 81).[34] The functions of this older synthetic future become increasingly limited over time, most of its functions being taken over by the new allative future tense. Eventually, when the allative future is fully grammaticalized (i.e., Stage 4 in Section 5.3), it is restricted to idiomatic expressions, and as such, it is no longer a productive paradigm.

The new allative future tense is commonly referred to in Egyptological literature by its constructional scheme, *iw=f r sḏm* 'he is going to hear', where *sḏm* 'to hear' represents any verbal lexeme (infinitive inflexion) and *=f* '3SGM' represents any nominal or pronominal subject. The morpheme *iw* will be treated here as an auxiliary, which marks a clause as independent (non-subordinated) and realis (with an explicit anchoring in the *hic-et-nunc* of the speaker). The morpheme *r* is a preposition that can be described as an allative (goal) marker (see below). The constructional scheme can be represented as per Figure 3.

iw	*f*	*r*	*sḏm*
AUX	3 SG.M	ALL	hear\INF
'he will hear'			

Figure 3. The constructional scheme of the allative future in Ancient Egyptian.

This construction belongs to a family of constructions built on the scheme SUBJECT – PREDICATE (known as "adverbial predication") in which the predicate is an adverbial, prepositional, or converbal phrase (Gardiner 1957, 35; 91–98; Shisha-Halevy 2000).

In his pioneering study of the future tenses in Earlier Egyptian (i.e., Old and Middle Egyptian), Vernus (1990, 10) suggested that the original meaning of the source construction for this future tense is "deontic" in nature:

> The relationship between the action and its subject does not stem from the speaker/writer's intention or expectation. Rather, the subject is bound to the fulfillment of the action through an ineluctable necessity. Even in the first person, something more than mere intention or expectation of the speaker/writer – who is then identical to the subject – is involved.

This view has been endorsed by most scholars working on Earlier Egyptian.[35] We think, however, that this description might call for reconsideration. Indeed, one can point out three biases of the previous approaches:

[34] See Edel (1964 [1955], §937 and §934) for its relation with the allative future, especially with respect to frequency.

[35] See, e.g., Malaise and Winand (1999, 479), Allen (2000, 176). The French teaching grammar of Grandet and Mathieu (2003, 183) is a striking exception in this respect. Following Martinet's description of the French preposition *à* 'to' as having *une valeur allative*, they call the construction *allatif*. See also Shisha-Halevy (2000, 75, n. 6): "in Egyptian, so far as we can see, the 'spatial' future ("I am to go") is earliest, whereas the modality factor starts to play a role in the same formation only very late."

(i) They focus on the Middle Egyptian corpus, to the neglect of the Old Egyptian data, which are of paramount relevance for any argumentation regarding the grammaticalization pathway of the construction.
(ii) They attribute the *Grundbedeutung* 'destined for/to' to the preposition *r*, whereas it can be shown to possess all the typical features associated with allative markers (Rice and Kabata 2007; Grossman and Polis 2012).
(iii) They project the semantics of the English *is to* + INFINITIVE construction onto the Ancient Egyptian construction, in particular its use with a deontic value (see Allen 2000, 176).

We see two arguments for reopening the discussion regarding the meaning of this construction. First, when the construction emerges in the extant documentation, the vast majority of examples involve first-person intentional subjects that exercise control over the event denoted by the predicate. This does not fit well with an originally deontic original meaning.[36] Second, the allative preposition *r* can encode both spatial and non-spatial goals. The constructional scheme on which the allative future construction is based can encode spatial destination, from the earliest attestation onwards (for an older example, see (26) below):

(25) *CT* VI, §490 [68i, T3Be] (de Buck 1956)
iw=*i* *r* *p.t*
AUX=1SG ALL sky
'I (am going) to the sky.'

5.3 Emergence and grammaticalization of the verbless allative future

In this section, we describe the steps of the emergence and grammaticalization of the verbless allative future in Ancient Egyptian[37] with a particular focus on the relaxation of the selectional restriction in terms of subject and predicate as well as on the types of inference available in context. The stages of grammaticalization of the construction can be described as follows.

Stage 0. This stage can be labeled "Motion with intention to act" It is the first step traditionally associated with the grammaticalization of a future tense out of *verbal* allative source constructions (for an English example, see (24)).

"Motion with intention to act" however, is not attested as a coded meaning for *verbless* allative futures. In such constructions, motion is not overtly expressed,

[36] On the intricate relationships between expressions of futurity and deontic modality in Ancient Egyptian, especially in Late Egyptian, see Polis (2006).
[37] The number of examples presented in this section is limited in order not to cloud the main linguistic issues with philological details and intricate problems that we discuss elsewhere (Grossman and Polis, in preparation). Moreover, the division into *stages* of grammaticalization does not do justice to the material, in which one may observe a gradual evolution. However, this organization of the data is the only way to present a clear picture for linguists who are not familiar with the particular philological issues of Ancient Egyptian.

iw	*NP*	*r*	*NP*
AUX	ANIM	ALL	LOC
'NP is going to NP'			

Figure 4. The constructional scheme *iw NP r NP*.

but is an inferential meaning.[38] In the earliest textual material (see Allen 2005), a construction is attested that is structurally close to the allative future and that is used for expressing orientation. Its constructional scheme can be represented as per Figure 4.

(26) *PT* §181 [P] (Allen 2005, 76)
i(w)=f *ir* *ʿḥ* *pf* *n* *nb.w* *kȝ.w*
AUX=3SG.M ALL palace DEM of lords Kas
'(Tell the name of Teti to the Sun, announce Teti to the Sun, for) he is (going/on his way/off) to this palace of the lords of Kas.'

This construction can be posited as the source construction for the allative future in Old Egyptian. It has the following characteristics: an intentional subject is oriented towards a spatial destination or goal, with motion as a likely inference.[39]

Stage 1. Verbal lexemes, in the form of infinitives, occur in the NP-LOC slot of the construction. This stage is characterized by an *intention* to act (and no spatial movement is involved); it is attested in Ancient Egyptian records from approximately 2600 to 2300 BCE:

(27) *Urk.* I, 224,6 (Sethe 1933, 224)
iw(=i) *r* *ir(.t)* *[ḫ]ft* *mrr.t[=s]n*
AUX(=1SG) ALL do\INF according.to desire=3PL
'(With respect to those who will act in accordance with what I have said), I will act in accordance with what they desire.'

During this stage, clear selectional restrictions are imposed on the construction: the grammatical subject necessarily refers to an intentional/animate first person

[38] See the discussion of the colloquial Russian examples in Section 4.1.2.

[39] Some colleagues who have read previous drafts of this paper have commented that the *iw NP r NP* "destination" construction encodes a static orientation, namely, NP is facing NP. First of all, this is perfectly possible, and we have to admit that Ancient Egyptian readers could have interpreted the construction this way. However, we think that this interpretation is based on an impoverished understanding of the preposition *r*: as a typical allative marker, the preposition *r* has dynamic meanings as part of its lexical semantics. At the very least, it would be possible – and likely – for dynamic inferences to be made when an agentive subject is oriented towards a destination, e.g., English SUBJECT is (off) to DESTINATION, SUBJECT is (headed) to DESTINATION.

(+ANIM & + INTENT), and the predicate assigns an agentive role (+AGENT) to this subject, which at the same time exerts control (+CONTROL) over the predicate – in fact, the matter of agentivity itself is less crucial than that of control.

The future construction chiefly occurs in apodotic clauses (see (27)) belonging to the closing section of formulae, in which the deceased calls upon future generations to maintain his funerary cult: the speaker asserts his *intention* to do whatever the next generations wish, if they make the offerings he asked.[40]

At this stage of grammaticalization of the allative future, listeners/readers have no reason to infer that there is any difference between the subject's intentions (subject-oriented inferences) and the prediction of the speaker about an event that he/she, as a first-person subject, will carry out (speaker-oriented inferences). As a result, innovative speaker-oriented inferences would have few opportunities to arise, and intention remains the meaning encoded by the construction. In fact, the intentional meaning associated with the first person is remarkably stable over time. Third persons, and to a lesser extent, second persons, are the principal locus of change. This is a typologically well-attested semantic asymmetry, and it can be explained pragmatically.

The selectional restrictions on the construction at Stage 1 and the related available inferences can be summarized as set out in Figure 5:

Selectional restrictions on the construction:
Subject = 1st person [+ANIM] & [+INTENT]
Predicate = [+CONTROL]
Inferences: [+SUBJECT-ORIENTED] & [+SPEAKER-ORIENTED]

Figure 5. Selectional restrictions on the construction at Stage 1.

Stage 2. At this stage (attested in texts dating from c. 2300–2150 BCE), we start to see the effect of the increasing frequency of occurrence of the construction in contexts amenable to speaker-oriented inferences, in which addressees infer that the speaker is the source of prediction regarding a future event,[41] and to the retraction of subject-oriented ones: the selectional restrictions on the construction are relaxed, allowing new kinds of intentional subjects, viz., second and third persons, to occur in the construction.

[40] A deontic interpretation of these early examples ('I am compelled/obliged to act') cannot be entirely ruled out. The deceased could be seen as entering a contract with the living: 'if you do this, I will (have to) do this and this'. The point that has to be made here as clearly as possible is that the subject/speaker is *intentionally* entering this contract, and is not under the coercion of any external force.

[41] The textual environment in which the second- and third-person subjects first appear might be relevant: they mostly occur in apodotic contexts, as was the case with first-person subjects at Stage 1. This textual environment could thus have played a role as a bridging context (Heine 2002).

(28) mCairo 20003, l. 3-4 (Lange and Schäfer 1902, 3–4)
iw=ṯn r ḏd m rꜣ=ṯn (...)
AUX=2PL ALL say\INF with mouth=2PL
'(If you have nothing in your hands,) you will say with your mouth (...)'

(29) *Urk.* I, 224,16 (Sethe 1933, 224)
iw [ḥw.t-ḥr] r ir.t mrr.t=sn
AUX Hathor ALL do\INF desire=3PL
'(With respect to any man or woman who shall speak,) Hathor will fulfill their desires.'

During this stage, a further argument against the alleged deontic meaning of the future construction (Section 5.2) is apparent: among the first occurrences of third-person subject, one finds the noun phrase *ḥm=f* 'His Majesty', which refers to the king (and indexes the writer of the letter, "His Majesty"="I"). In the cultural environment of the Old Kingdom, it is quite difficult to imagine that the king *has to* act in such or such a way; a better explanation is that he simply intends to act:

(30) *Urk.* I, 129, 8 (Sethe 1933, 129)
iw ḥm=f r ir.t sꜣr.w=k
AUX majesty=3SG.M ALL do\INF aspirations=2SG.M
ꜥšꜣ.w iḳr.w
many excellent
'(If you continue day and night being concerned with doing what your lord loves, praises and commands,) His Majesty will fulfill your many worthy aspirations.'

This evolution of the construction is in tune with Bybee, Perkins, and Pagliuca (1994, 254) who "hypothesize that all futures go through a stage of functioning to express the intention, first of the speaker [=Stage 1], and later of the agent of the main verb [=Stage 2]."

Up to Stage 2 (Figure 6), the construction cannot be described as a fully semanticized future, as shown by the selectional restrictions on the subject and predicate types, even if the rise of speaker-oriented inferences opens the way to predictive readings.[42]

It is worth noticing here that the directive meaning – prominent with second-person subject, as in example (28) – is a cross-linguistically recurrent meaning that is available for future tenses as soon as speaker-oriented inferences are taken into account. Indeed, the very fact that the speaker is in a position to assert a future event that involves a second-person intentional subject, i.e., has (or positions him-/herself as having) authority over the addressee, inevitably leads to manipulative inferences and to a decrease in the intentionality/control of the subject.

[42] An isolated example of the construction with an inanimate subject occurs at the very end of the chronological period covered by Stage 2 and prefigures the later development of the construction.

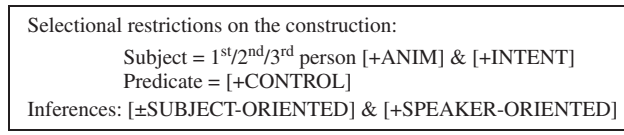

Figure 6. Selectional restrictions on the construction at Stage 2.

Stage 1	Stage 1-2	Stage 2
4	3	64

Figure 7. Tokens of the Allative Future during Stage 1 and 2.

During Stage 2, second- and third-person subjects remain fairly rare in the extant documentation: taken together, they represent less than 15% of the subjects occurring in the Allative Future construction. Over the same period, we observe a clear rise in text frequency of the construction (Figure 7).

Stage 3a. This stage is characteristic of Middle Egyptian (2150–1400 BCE). With the rise of speaker-oriented inferences at Stage 2, new types of subjects could enter the future constructional scheme. In turn, this led to the retraction of subject-oriented inferences and opened up the way to Stage 3 of grammaticalization. Indeed, when the listener infers that the speaker makes a prediction about an intentional subject, the salience of the intentional meaning characteristic of animate subjects decreases (Figure 8).

The retraction of subject-oriented inferences leads to a relaxation of the selectional restrictions on the types of possible subjects for the construction and to the semantics of *prediction*. During Stage 3a, several predicates attested do not require an agentive subject anymore and control-less subjects are frequent:[43]

(31) P. UC 32057, col. III,14 (Collier and Quirke 2004, 63)
iw=*s* *r* *ms.t* *wḏf*
AUX=3SG.F ALL give.birth:INF delay
'(If you find it limp, you should say about her:) "She will give birth late"'.

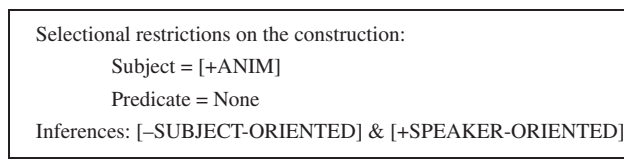

Figure 8. Selectional restrictions on the construction at Stage 3a.

[43] See Langacker 1999, 147.

Selectional restrictions on the construction: Subject = None Predicate = None Inferences: [–SUBJECT-ORIENTED] & [+SPEAKER-ORIENTED]

Figure 9. Selectional restrictions on the construction at Stage 3b.

Stage 3b. According to the preserved documentation, it is difficult to decide whether Stages3a and 3b are distinct. Stage 3b is characterized by the dropping of all selectional restriction on the subject type:

(32) *Sh.S.*, 119-120 (Blackman 1972, 45)
iw dp.t r iy.t m ḫnw
AUX boat ALL come\INF from home
'A ship will come from home.'

In Stages 3a and 3b, the construction is functionally a future construction: there are many examples with non-agentive and inanimate subjects, which can only convey a purely predictive meaning and exclude an intentional reading (Figure 9).

It should be stressed again that the best explanation for the rise of a purely predictive meaning appears to be a pragmatic one. We saw that s*ubject-oriented* inferences, in which the speaker is understood to be talking about his intentions (Stage 1) and the intentions of a human subject (Stage 2), were quickly replaced by *speaker-oriented* inferences, in which the speaker is interpreted as predicting something (asserting that an event will take place in the future). These speaker-oriented inferences lead, in turn, to a further relaxation of the original selectional restrictions on the constructions: the constructional scheme is open to control-less or inanimate subjects and to predicates that do not require agentive subjects that can exercise control over a process. Only these speaker-oriented inferences provided the conditions (increase in type frequency) that promoted a rise in text frequency, since temporal meanings are likely to be more common than expressions of intention in many kinds of discourse situations.

At this point however, the Allative Future construction does not display advanced features of grammaticalization at the formal level. During Stages 3a and 3b, the allative preposition is still the main marker of the future meaning: we observe no obligatorification of the *iw* auxiliary (which marks independent main clauses up to Stages 3a and 3b, but will later become an obligatory part of the future construction). The allative expression of the future (*r* + infinitive) can occur with a range of other so-called "initial auxiliaries" in independent uses (like the presentative *mk* in (33), or the epistemic *smwn* in (34)), as well as in dependent uses (relative and complement clauses (35), or protases) with no auxiliary:

(33) *Peas.*, B1,42 (Parkinson 1991, 11)
mk wi r nḫm ꜥ3=k, sḫty
PRES 1SG ALL seize:INF ass=2SG.M peasant
'Look, I am going to seize your ass, peasant.'

(34) *Sinuhe*, B157-158 (Koch 1990, 55)
smwn=*k* *r* *rdi.t* *mɜ*=*i* *bw*
probably=2SG.M ALL CAUS\INF see:SBJV=1SG place
'Surely you will let me see the place (where my heart dwells).'

(35) *Nofru*, 33 (Gardiner 1957, 253)
iw *ḏd.n*=*sn* *wnt* *sn* *r* *ḥḏ.t* *tp.w*
AUX say:PFV=3PL that 3PL ALL destroy:INF heads
'They said they would destroy heads.'

Such examples show that syntactic environments that are considered by Bybee, Pagliuca, and Perkins (1991, 32) and Bybee, Perkins, and Pagliuca (1994, 244) to be characteristic of most highly grammaticalized futures (Futage 4), like uses in complement clauses or protases, are actually attested before the textual material exhibits the first formal signs of grammaticalization. In other words, the selectional restriction on the verbless allative future are almost entirely relaxed before the first signs of morphophonological and syntactic changes take place. It is only after the future meaning of the construction has been fully semanticized that other features of advanced grammaticalization appear. By then Stage 4 has been reached.

Stage 4. By the beginning of the Late Egyptian period (around 1400–700 BCE), we observe – at the formal level – a loss of compositionality of the construction, which in turn created conditions conducive to morphological reduction.[44] The auxiliary *iw*, which was previously used in independent main clauses only, becomes an integral part of the future construction. This morpheme has lost its autonomy as a *hic-et-nunc* assertive marker. This is evidenced by its occurrence in dependent clauses, from which it was previously excluded (36), and by the fact that *iw* no longer alternates with other initial auxiliaries:

(36) P. Berlin P 10463 (=Caminos 1963, pl. 6)
iw *iw*=*tw* *r* *mni*(*.t*) *r* *GN*
when FUT=one FUT come.alongside:INF ALL GN
m hrw 3
in day 3
'(I will come to you) when one will come alongside GN in 3 days.'

Another formal change that occurs at Stage 4 is the emergence of an allomorphic variant of *iw* – namely *iri* – which is used when the subject is a noun

[44] Regarding the first occurrences that display such morphosyntactic changes, see Kroeber (1970, 135–139). For the morphology of the construction at this stage, see Winand (1992, 481–517).

phrase and not a pronoun.[45] This kind of formal change is generally considered to be an indication that the construction has reached a higher degree of grammaticalization (Bybee, Pagliuca, and Perkins 1991, 37). Moreover, it is only at this stage that a negation emerges in our documentation for the Allative Future construction and replaces an older negation for the future:

(37) Tomb of Paheri (Tylor and Griffith 1894, pl. 12,2)
mk nn iw=i r wꜣḥ=ṯ
PRES NEG FUT=1SG FUT stop:INF=2SG.F
'I'm not going to stop you!'

As shown by the glosses of the two previous examples, it is now up to the construction as a whole, i.e., to *r* in combination with the auxiliary, to encode the expression of future time reference. This, in turn, allows for a gradual morphological reduction of the construction, whereby the allative marker *r* becomes optional (Winand 1992, 504–510), at least at the graphemic level. At this point, the expression of futurity is encoded by the auxiliary *iw*:

(38) P. Chester Beatty I, r° 2,2 (Gardiner 1932, 38,10–11)
iḫ pꜣ nty iw=n Ø ir=f
what ART.M.SG REL FUT=1PL do:INF=it
'What will we do?' (lit. 'What is it that we will do it?')

As a result of the obligatorification of the *iw* auxiliary, which has by now evolved into a full-fledged future marker, new types of adverbial predicates[46] – which, crucially, involve no allative marker – can enter the construction and express future time reference. The resultative form of the verb is a case in point:

(39) P. BM EA 10335, v° 16-17 (=Kitchen 1989, 418, 6)
mtw=i pnˁ rꜣ=i, iw(=i) di-k(wi)
if=1SG turn.upside.down mouth=1SG FUT(=1SG) give:RES-1SG
n pꜣ msḥ
to the crocodile
'If I contest my deposition, I will be thrown (lit. given) to the crocodile.'

During Stage 4, the construction undergoes additional evolution at the pragmatic level, with new *intersubjective* meanings emerging in the textual sources. One such intersubjective meaning is the *optative* use[47] of the following

[45] This is probably due to phonological processes that are not easy to track behind the hieroglyphic and hieratic scripts. See Vergote 1973, 221; Mathieu 2008, 200, §87. On the development of this allomorphy, see Kruchten 2010.
[46] Adverbs or converbs, like the so-called pseudo-participle (a resultative form); see Winand 1996.
[47] Layton (2000, 263–267) labels the Coptic descendant of the allative future construction "The optative *ere-*" and describes it as "expressing future tense with a strong expectation of fulfillment" and "expressing polite or restrained command/prohibition (*Would you . . .*); or polite wish directed to a 1st or 3rd person (*Let me*, *May he*)".

sentence, which occurs at the end of a letter where the sender begs the god Ptah to bring them back safe from an expedition.

(40) P. Leyde I 362, v° 1 (=Kitchen 1979, 927, 5-6)
iri *Ptḥ* *in.t=n* *mtw=n* *ptr=ṯ*
FUT Ptah bring.back\INF=1PL so_that=1PL see=2SG.F
'May Ptah bring us back so that we see you!'

However, considering the optative as a kind of intersubjectivity requires envisioning intersubjectivity in a different way than in Traugott's canonical definition:

> the way in which natural languages, in their structure and their normal manner of operation, provide for the locutionary agent's expression of his or her awareness of the addressee's attitudes and belief, most especially their 'face' or 'self-image'. (2010, 33)

We suggest expanding this definition in order to be able to account for optative uses such as the ones encountered in the Ancient Egyptian material: intersubjectivity could be defined as *any correlation of subjectivity*,[48] e.g., between the speaker and the addressee. The term could therefore refer to any construction that takes into account more than one subjective point of view. In (40), we are dealing with the point of view of the speaker – who predicts the future occurrence of an event – and with that of the referent of the subject, who, because of his divine nature, exercises full control over the realization of the future event.

These optative uses remain somewhat marginal in the data of Stage 4, but they are interesting in so far as they show that the construction first evolved in the direction of an increased degree of subjectivity and then developed an intersubjective meaning. This fits with Traugott's cline SUBJECTIFICATION > INTERSUBJECTIFICATION. Now, how can we account for the process of intersubjectification in the present framework? We think that intersubjectification is, in this case, the result of *subject*-oriented inferences: once the predictive meaning has become an integral (coded) part of the construction's semantics, subject-oriented inferences can be made based on the new coded meaning. Accordingly, we observe the occurrence of subjects that exert full control over the realization of a future event, which, combined with the predictive meaning, leads to the expression of optativity. We thereby end up with a cyclical process of *subject-speaker-subject*-oriented meanings. This process does not lead to the re-emergence of older meanings, for the older available inferences are semanticized before new ones appear.

5.4 Implications of the Ancient Egyptian verbless allative future

One of the main interests of the Ancient Egyptian allative future for understanding the development of future tenses in general is the fact that the

[48] One is reminded of the way Benveniste (1966) characterizes the I/you dichotomy (*corrélation de subjectivité*) *vs.* the I-you/(s)he dichotomy (*corrélation de personnalité*).

source construction does not involve a verb of motion at all, yet it develops along pathways of functional change similar to other allative futures, such as the English *going to* future, which has played such a prominent role in studies of grammaticalization.

More specifically, it has been possible to demonstrate how – over a long period (i.e., more than 1500 years) – the rise and semanticization of speaker-oriented inferences, together with the retraction of subject-oriented ones, led to the relaxation of the selectional restrictions of the source construction and eventually to a semanticization of the prediction meaning. The grammaticallization of the Ancient Egyptian allative future is therefore a clear case of *subjectification*.[49]

We think that the distinction between subject- and speaker-oriented inferences contributes to a better understanding of the

> mechanism whereby meanings come over time to encode or externalize SP[eaker]/W[riters]'s perspectives and attitudes as constrained by the communicative world of the speech event, rather than by so-called 'real-world' characteristics of the event or situation referred to. (Traugott 2003, 286)

6. Conclusions

Eckardt (2009, 39) has stressed that language change ought to be explained without mysteries, that is, without falling back on unexplained or unmotivated principles or "mechanisms". In much of the current literature on subjectification – and to a lesser extent, grammaticalization – generalizations are represented as motivations or principles of language change. The present paper has attempted to provide a relatively mystery-free account of semantic change in grammaticalization and subjectification, and to link this account to the reductive formal changes observed in grammaticalization.

The ideas presented in this paper still have to be applied to other kinds of change in order to evaluate them more carefully. Many questions remain to be investigated empirically: can we identify the range of inferences that a given construction type makes available, cross-linguistically? How do different pragmatic mechanisms, e.g., implicatures or presupposition accommodation, interact in semantic change? Are there examples of counter-directional change, i.e., subject-oriented inferences spreading at the expense of speaker-oriented ones? Does statistical evidence from naturally-occurring discourse bear out the

[49] The evolution of the Allative Future construction in Ancient Egyptian (INTENTION > PREDICTION > OPTATIVITY) is congruent with the proposal made by Narrog (2005, 2007, 2010) who argues that, diachronically, an increasing *speaker-orientation* is expected for modal grams. According to Narrog (2010, 394), "the term speaker-orientation refers to the speaker her- or himself and the speech situation, including the hearer, and thus subsumes both subjectivity and intersubjectivity". The case study presented here shows that Narrog's cover-term *speaker-orientation*, as referring both to subjective and intersubjective phenomena, is probably too underspecified to be a "mechanism". Narrog's important insights could be further refined and operationalized by taking into consideration an expanded conception of *subject-* vs *speaker-oriented inferences*.

hypothesis that speaker-oriented meanings are more common than participant-oriented ones? How can we examine the mechanisms by which innovative speaker-oriented inferences are actually made and propagated in a more empirical fashion? To what extent does the framework proposed here cover the wide range of phenomena that have been treated as instances of grammaticalization? Does it render explanations based on metaphors or reanalysis + analogy epiphenomenal?

We hope that the proposals made here will contribute to the ongoing project of understanding the relationship between functional and formal change in grammaticalization, and thereby to understanding why languages structures are the way they are.

Acknowledgements

We gratefully acknowledge the numerous and tremendously helpful comments and suggestions of two anonymous reviewers and of the editors Hubert Cuyckens and Daniël van Olmen, as well as those of Randy LaPolla.

List of abbreviations

ACC	accusative	M	masculine
ALL	allative	NEG	negative
ACT	active	NOM	nominative
ART	article	OBJ	object
AUX	auxiliary	PASS	passive
CAUS	causative	PFV	perfective
CVB	converb	PL	plural
DAT	dative	PRES	presentative
DEM	demonstrative	PRF	perfect
F	feminine	PROX	proximal
FUT	future	PRS	present
IMP	imperative	PTCL	particle
INCOMPL	incompletive	PURP	purposive
IND	indicative	REL	relative
INF	infinitive	RES	resultative
INFM	infinitival marker	SBJV	subjunctive
INTR	intransitive	SG	singular
IPFV	imperfective	SUP	supine
		1/2/3	first/second/third person

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