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Semantic Change and Heterosemy of Dongolawi *ed*

Angelika Jakobi & El-Shafie El-Guzuuli*

1. Introduction

In many languages, lexical verbs expressing directed motion or transfer undergo a functional and semantic change. As a result of this change these verbs come to function as grammatical morphemes. To illustrate this phenomenon, let us look at two examples, English *go* and French *venir* ‘come.’

- ▶ English *go* is a lexical verb expressing motion towards a goal, as seen in *I am going to London*. Apart from this function and meaning, English *going to* is also used as a grammatical device expressing an event in the future, as seen in *the ladder is going to fall*. In this last example, *going to* no longer designates motion through space towards a goal. Rather *going to* expresses the approaching of an event in the future.
- ▶ French *venir* ‘come’ is another example of the evolution of a grammatical morpheme originating in a lexical verb. French *venir* expresses motion away from a place towards the deictic center, as shown in *je viens de Paris* ‘I come from Paris.’ Additionally, *venir* has come to be used as a marker expressing immediate past: *je viens de manger un sandwich* ‘I have just eaten a sandwich’ (where *viens* ‘I come’ is an inflected form representing the 1st person singular present tense of *venir*).

Thus, while English *go* and French *venir* continue to be used in their original function as lexical verbs, they have additionally acquired grammatical functions as a modality or tense/aspect marker, respectively. The change of the morphosyntactic context facilitates the acquisition of a new grammatical function, as can be seen from the examples. In *I am going to London* the subject has an animate ref-

* We would like to thank Gertrud Schneider-Blum and Marcus Jaeger for reading and commenting on a draft of our paper.

erent who moves through space towards a goal. But in *the ladder is going to fall*, the subject has an inanimate referent and the meaning of going to is metaphorically extended to express motion through time towards an event in the future. So the grammatical category to which *go* belongs – either lexical verb or modality marker – is determined by the morphosyntactic context. Moreover, lexical items used as a grammatical device often lose phonological substance and internal structure. For instance, *going to* is used as a single grammatical device to express the approach to a future event. At least in spoken English it is often realized in the phonologically reduced form *gon-na*, as illustrated by *I'm gonna be a doctor*.

According to Lichtenberk, grammaticalization is defined “as the development of a grammatical element from an erstwhile lexical element, either directly or through one or more intermediate stages.”¹ This process is often associated with changes involving the “reinterpretations of lexemes, affecting the morphosyntactic, semantic and phonological status of words or morphemes.”²

Although processes of grammaticalization are very common in languages, the details are often not very well understood. The present paper is a case study focusing on the grammaticalization of Dongolawi *ed* ‘take.’ We will argue that this verb is the source of three distinct grammatical morphemes, the completive aspect marker *-ed*, the instrumental case marker *-g-ed*, and the causal clause marker *-g-ed*. Furthermore, we will attempt to highlight the distinct morphological contexts in which these morphemes are used and also trace the semantic changes involved in the functional extensions of *ed*.

When morphemes with distinct grammatical functions and distinct morphosyntactic properties derive from a common historical source, the relationship between these morphemes is known as heterosemy. Thus heterosemy results from the functional extension of lexical items.³

The paper is arranged as follows. In section 2 we provide some typological background information on Dongolawi. In section 3 we account for the grammatical interpretation of *ed* in previous studies of the Nile Nubian languages. In section 4 we focus on the question of how the grammatical morphemes originating in *ed* are used. In section 5 we explore the semantic motivation of their specific grammatical functions. Finally, in section 6 we will summarize our findings and suggest a semantic map visualizing the assumed grammaticalization path that originates in the lexical verb *ed* ‘take.’

1 LICHTENBERK, “Semantic Change and Heterosemy in Grammaticalization,” p. 477.

2 DIMMENDAAL, *Historical Linguistics and the Comparative Study of African Languages*, p. 123.

3 LICHTENBERK, “Semantic Change and Heterosemy in Grammaticalization,” pp. 480, 499.

2. Background

Dongolawi is spoken in the Nile Valley of Sudan roughly between Debba on the bend of the Nile and the Third Cataract. 'Dongolawi' is an Arabic term based on the name of the town of (Old) Dongola on the eastern side of the Nile, which was the centre of Makuria, the Christian kingdom that existed since the 6th century until its collapse in the 14th century. Today's Dongola on the western side of the Nile was founded in the 19th century. Dongolawi speakers refer to their language by the term *Andaandi* (*an-daa-n-di*) '[the language] of my/our home.' This term is also used in the online version of *Ethnologue*.⁴

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As for its genetic affiliation, Dongolawi is a Nubian language. The language most closely related to Dongolawi is Kenzi (also known as Kunuz or Kunuzi) spoken in the Nile Valley of southern Egypt. Although Kenzi and Dongolawi are closely related they are geographically about 800 km apart from each other, being separated by Nobiin, another Nile Nubian language.

The Nile Nubian languages and the western Nubian languages of southern Kordofan and Darfur jointly constitute the Nubian language family. The relationship between the languages spoken in the Nile valley is debatable. Bechhaus-Gerst argues that Nobiin and Old Nubian form a distinct subgroup and that Kenzi and Dongolawi form another subgroup along with the Kordofan Nubian languages and Birgid of Darfur.⁵ By contrast, Rilly presents evidence of a Nile Nubian subgroup comprising Old Nubian, Nobiin, Kenzi, and Dongolawi.⁶

Nubian is classified as part of the larger northern East Sudanic group. Other languages of this group are Taman of Darfur, the Nyimang group spoken in the Nuba Mountains, Nara of Eritrea and the extinct Meroitic language.⁷ Ultimately northern East Sudanic is considered to be a subgroup of the Nilo-Saharan phylum.

In typological perspective, Dongolawi has *sov* constituent order in a transitive clause and *sv* in an intransitive clause.⁸ The subject constituent is unmarked for nominative case regardless of transi-

4 <<http://www.ethnologue.com/language/dgl/>>

5 BECHHAUS-GERST, "Nile Nubian Reconsidered."

6 RILLY, *Le Méroïtique et sa famille linguistique*.

7 *Ibid.*

8 Abbreviations: * - unattested; 1, 2, 3 - 1st, 2nd, 3rd person; A - ARMBRUSTER, *Dongolese Nubian: A Grammar*; ABL - ablative; ACC - accusative; AUX - auxiliary; COM - comitative; CPL - completive; DEF - definite; FUT - future; GEN - genitive; IMP - imperative; INS - instrumental; Lex - ARMBRUSTER, *Dongolese Nubian: A Lexicon*; LOC - locative; M - MASSENBACH, *Nubische Texte im Dialekt der Kunūzi und der Dongolawi*; NEG - negation; PASS - passive; PRED - predication; PT - preterite; PL - plural; Q - question; R - marker of the so-called present tense; SG - singular; Sh - El-Shafie El-Guzuuli; sov - constituent order subject-object-verb; STAT - stative; sv - constituent order subject-verb.

tivity. The semantic-syntactic roles of other constituents are indicated by postpositions or, more precisely, clitic case markers. They comprise the following morphemes, the accusative marker =*gi* (encoding both the direct and indirect object), the genitive marker =*n*, the instrumental =*ged*, the comitative =*gonon*, allative 1 =*gaddi*, allative 2 =*gir*, the locative =*r* (or one of its allomorphs *ir*, *ro*, *lo*, *do*), the adessive =*nar*, ablative 1 =*rtoon*, ablative 2 =*nar-toon*, and the similative =*nahad*.⁹

The composition of case markers appears to be an areal feature. It is also attested in a number of languages of Ethiopia, e.g. in the Cushitic languages Maale,¹⁰ K'abeena,¹¹ and Alaaba,¹² and in the Omotic language Haro.¹³ Dongolawi has an agglutinating morphological structure; it employs suffixes rather than prefixes. An inflected verb may comprise a string of several suffixes marking valency, tense/aspect/modality, person, number, and a final question suffix. The inflected verb in clause-final position may be preceded by one or more lexical verbs. In such multiverb constructions the verbs preceding the clause-final verb often occur as a bare verb root or as a verb root extended by an aspect marker such as *-ed* or *-os*. However, person and number marking is absent on these non-final verbs. The person and number values of the inflected verb have scope over the preceding verbs, as illustrated in examples 2, 4, and 7.

3. The grammatical conception of *ed* in previous studies

Before providing a brief review of previous studies concerned with the grammatical development of *ed*, we will first look at its lexical source, the verb *ed* 'take.' In the Dongolawi language of today it has two rather specific meanings, 'take a wife, take in marriage, marry' and - in a fixed expression with *aas* - 'get news,' as illustrated in examples 1 and 2, respectively. (The lexical item *aas* is often replaced by the Arabic loanword *akhbaar*.)

- | | | | | |
|---|---------------------------|-----------------|-----------|--------------|
| 1 | <i>ahmed</i> | <i>tumsa=gi</i> | <i>bu</i> | <i>ed-in</i> |
| | Ahmed | Tumsa=ACC | FUT | marry-3SG |
| | 'Ahmed will marry Tumsa.' | | | |

9 JAKOBI & EL-GUZUULI, "Heterosemy of Case Markers and Clause-Linkers in Dongolawi."

10 AMHA, *The Maale Language*.

11 CRASS, *Das K'abeena*.

12 SCHNEIDER-BLUM, "Alaaba."

13 WOLDEMARIAM, "Haro."

<i>ju</i>	<i>tinn</i>	<i>aas=ki</i>	2
go	3PL.GEN	NEWS=ACC	

<i>ed-ed</i>	<i>ta</i>	
get-CPL1	come.IMP.2SG	
'Go and get their news!'		

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Furthermore, the lexical verb *ed* is attested in the compound verb *etta* 'bring, fetch' which is composed of *ed* 'take' and *ta* 'come.' Literally, *etta* may be rendered in English as 'take (and) come.'

<i>in=gi</i>	<i>ter=nartoon</i>	<i>etta</i>	3
this-ACC	3SG=ABL2	bring.IMP.2SG	[A]
'Bring this back from him.'			

The assumed semantic shift of *ed* 'take' to the more specific meaning of 'take a wife, take in marriage, marry' is attested in Kenzi and Nobiin, too. Massenbach, in her Kenzi-German dictionary, for instance, provides two entries, the verb root *ed* "nehmen" ('take') and the same verb root *ed* "heiraten" ('marry').¹⁴ Similarly, Werner in his Nobiin grammar provides the verb *édìr* (in the 1st person singular form) with two glosses, "nehmen, heiraten" ('take, marry').¹⁵ However he also points out that 'take' is usually expressed by the lexical verb *dúmmìr* whereas *édìr* is used to render 'marry.'¹⁶

We assume that 'take' is the original meaning of *ed*. Our assumption is supported by the fact that the verb *ed* is rendered as 'take' in Browne's Old Nubian dictionary.¹⁷ As is common for Old Nubian, the verb 'take' is rendered in several graphemic variants including εΛ, εΛ̄, ετ, εττ, ειτ, ετ̄.

The main question we address in this section is whether other scholars have considered the grammaticalization of the verb *ed* and whether they have accounted for its development as a verbal aspect suffix, case marker, and causal clause marker.

In contrast to the morphologically complex case marker and the causal clause marker *-ged*, the use of *ed* as a verbal suffix is recognized in all previous grammatical studies of the Nile Nubian languages. It is often discussed in connection with the verbal suffix *-os* since *-ed* and *-os* have a partially overlapping aspectual function. We will consider the studies concerned with *-ed* (and *-os*) in chronological order of their publication, starting with Reinisch's grammar *Die Nuba Sprache*, in which he is concerned with Kenzi, Dongolawi,

14 MASSENBACH, "Wörterbuch des nubischen Kunûzi-Dialektes," p. 160.

15 WERNER, *Grammatik des Nobiin*, p. 181.

16 *Ibid.*, p. 182

17 BROWNE, *Old Nubian Dictionary*, pp. 65, 78.

and Nobiin (Fadidja and Mahasi) considering them as dialects of one language.¹⁸

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Reinisch claims that all verbs can take *-ed* and *-os*, their function being the “tatsächliche vollzugsetzung einer handlung” (‘actual completion of an activity’) or the intensification of the basic meaning.¹⁹ He also observes that with some verbs *-ed* is preferred over *-os* and vice versa and that some verbs may take *-ed* and *-os*, as attested by *nal-ed* and *nal-os* ‘have seen’ in Nobiin.

Lepsius, in the dictionary attached to his Nobiin grammar, provides two entries, one for *ede* “nehmen” (‘take’) and one for *ede* “heirathen, eine Frau nehmen” (‘marry, take a wife’).²⁰ He considers both Nobiin *oose* and *ede* as being used as extensions of the verb stem (the final *-e* being a nominalizing suffix). Although he points out that the inflection of the verb extended by *-oos* is the same as the inflection of the verb *oose* ‘drive out, bring out’ he denies that this verb and the extension have anything to do with each other.²¹ As for *-ed*, however, he suggests that this extension originates in the verb *ede* ‘take.’²² He claims that *-oos* and *-ed* can be used as verbal extensions with almost any verb without changing the meaning of that verb. The only instance of a semantic difference is suggested by *jaan-ed-e* ‘buy’ and *jaan-oos-e* ‘sell,’ but Lepsius points out that not all examples attest to this alleged semantic distinction.²³ Moreover, in the same section one finds the verb *merr* which is attested with *-oos* and *-ed* without, however, provoking a semantic distinction, as both *merr-ed* and *merr-oos* are glossed as “abhauen,” i.e. ‘cut off.’²⁴

According to Almkvist, *-os* expresses a completed action, particularly referring to the recent past whereas verbal forms employing *-ko-r* express the remote past.²⁵ For this reason, he claims that the latter is used in narratives while *-os* rather occurs in conversations. He also very briefly mentions the extension *-ed* expressing “Verstärkung” (‘intensification’) of the completed action.

When editing a narrative from Ermenne (Arminna), Abel makes some interesting grammatical observations concerning *-ed* and *-oos* in Nobiin.²⁶ He states that verbal extensions in *-ed* may occur on almost any verb without triggering a noticeable change in meaning. More importantly, he notices that a verb extended by *-ed* plus *aag* ‘sit’ renders a resultative reading. He describes this construction as having “[...] die Funktion [...] eine Handlung zu bezeichnen, deren

18 REINISCH, *Die Nuba-Sprache*.

19 *Ibid.*, p. 53.

20 LEPSIUS, *Nubische Grammatik*, pp. 156-8.

21 *Ibid.*, p. 156.

22 *Ibid.*, p. 292.

23 *Ibid.*, p. 157.

24 *Ibid.*, pp. 156-7.

25 ALMKVIST, *Nubische Studien im Sudan*, pp. 73, 82.

26 ABEL, “Eine Erzählung im Dialekt von Ermenne,” pp. 30.

Ergebnis in der Gegenwart [...] noch andauert," i.e. it has the function of designating an activity whose result still persists in the present.

Exactly this function is also attested in Dongolawi, as we will show below. As for *-oos*, Abel points out that it occurs mostly on verbs having a syntactic object.²⁷ This observation again coincides with the function of Dongolawi *-os* which may indicate a higher degree of transitivity (see section 4.1 below).

In her Kenzi grammar, Massenbach traces the extension *-ed* and *-os* back to the verbs *ed* 'take' and *os* 'take out'.²⁸ She claims that *-ed* often appears with verbs of taking. Although she does not connect the discussion of *-ed* with the discussion of *-os*, she attributes similar functions to these extensions. She suggests that *-os* expresses that "die Handlung ganz ausgeführt wird" ('the action is completely carried out'). In respect to *ed*, she describes its meaning as "vollendete Handlung" ('completed action') when it appears in combination with the preterite. Thus, according to Massenbach, there is no difference in meaning between *ed-* and *os-*marked verb forms.

Surprisingly, in Abdel-Hafiz's Kenzi grammar *-ed* is not mentioned at all.²⁹ Only *-os* is discussed within the chapter on derivational morphology. Choosing 'definite' as label for *-os*, Abdel-Hafiz claims that "[t]he definite indicates a definite or particular (as opposed to a general) object that is known to both the speaker and the hearer." Commenting on the examples *kal-os-s-i* 'I ate it' and *ny-os-s-i* [sic!] 'I drank it' he writes that these expressions can be used "if the situation requires an answer to a question of the following type: 'Who ate the chicken?/Who drank the milk?' That is, the object (the chicken) is a shared knowledge between the speaker and the hearer."³⁰ This meaning which is associated with a higher degree of transitivity is also attested in Dongolawi (see the comments on example 6 below).

Armbruster, in his impressively detailed Dongolawi grammar, deals with *-ed* and *-os* together. He recognizes that *-ed* originates in the verb *ed* 'take' and that *-os* (with a short *o*) originates in the verb *oos* 'cause to issue, send out, bring out'.³¹ Also he points out that *-ed* can be replaced by *-os* with some verbs, for example, *nal-os*, *nal-ed* 'see (on a given occasion)'.³² Moreover, he observes that the suffixes *-os* and *-ed* are not used on the verbs *aag* 'squat,' *buu* 'lie,' *daa* 'exist,' *e* 'say, be'.³³ However, this statement is only true if these verbs are used as grammaticalized aspect morphemes. We will come back to

27 Ibid., 71.

28 MASSENBACH, "Wörterbuch des nubischen Kunûzi-Dialektes," pp. 132-4.

29 ABDEL-HAFIZ, *A Reference Grammar of Kunuz Nubian*, pp. 122-3.

30 Ibid., p. 123.

31 ARMBRUSTER, *Dongolese Nubian: A Grammar*, § 3802.

32 Ibid., § 3789.

33 Ibid., § 3790.

this point in section 4.1 below. Armbruster uses the term ‘definite stems’ for verbs extended by *-ed* or *-os*, describing their function as rendering the meaning of the verb to be “more precise, definite and exact.”³⁴ Moreover, according to Armbruster, verbs extended by *-ed* or *-os* express notions like Latin *iam* or German *schon*,³⁵ i.e. notions associated with the anterior.

Werner in his Nobiin grammar realizes that *ed* is both used as a lexical verb and as a verbal extension which appears in the present tense and preterite.³⁶ Werner does not identify the function of *ed* in the present tense but for the preterite he cautiously points out that *ed* might express the completion of an action (“Vollzug der Handlung”) and thus might imply the anterior.

Browne in his *Old Nubian Grammar* provides the following rather cryptic note on *-ed* and *-os*, “ⲉⲓⲧ- ‘to take’ enters into formal contrast with ⲟⲥ- [...] in the opposition of ⲉⲓⲧ- ‘to buy’ and ⲉⲓⲧ-ⲟⲥ- ‘to sell’ [...]”.³⁷ He provides the meaning of *oc-* as ‘to take out.’ This is the only example suggesting a semantic distinction between a venitive form marked by *-ed* and an andative form marked by *-os*.

In her comparative study of modern Nobiin and Old Nubian (which she calls “Old Nobiin”), Bechhaus-Gerst devotes a whole chapter to the suffixes *-os* and *-ed*.³⁸ Like most of her predecessors she considers these suffixes to originate in the verbs *oos* ‘pull out, take out, bring out’ and *ed* ‘take, marry.’ She provides a number of examples drawn from Old Nubian texts and Abel’s Nobiin texts from Ermenne (Arminna). In contrast to previous scholars, however, she claims that these suffixes are marking ‘directionality,’ more specifically she claims that *-os* expresses motion away and *-ed* motion towards the deictic center. (Such morphemes are usually known as andative and venitive.)

Unfortunately, she bases her hypothesis on a single pair of Nobiin verbs, *jan-ed* and *jan-(o)os*, attested both in Old Nubian and in Lepsius’ Nobiin grammar. While Lepsius discusses these verbs as instances of a possible semantic distinction between ‘buy’ and ‘sell,’ carefully pointing out that one of his examples contradicts this assumption,³⁹ Bechhaus-Gerst ignores this counter-example.⁴⁰ She makes a far-ranging assertion, claiming that *jan-ed* and *jan-os* are “remnants of the erstwhile directional function” which allegedly existed in Old Nubian and Nobiin grammar.⁴¹ She even ‘recon-

34 Ibid., § 3802.

35 Ibid.

36 WERNER, *Grammatik des Nobiin*, p. 183.

37 BROWNE, *Old Nubian Grammar*, p. 65.

38 BECHHAUS-GERST, *The (Hi)story of Nobiin*, pp. 147–57.

39 LEPSIUS, *Nubische Grammatik*, pp. 156–8.

40 BECHHAUS-GERST, *The (Hi)story of Nobiin*, p. 151.

41 Interestingly, the same reading is rendered by Dongolawi *jaan-ed* and *jaan-os*. However, as seen in example 25, the reading ‘buy’ can also be rendered without *-ed*.

structs' a putative grammaticalization path that comprises three stages, starting with the "directional" from where first the "definitive" and then the "resultative" have emerged. Due to the lack of convincing evidence, however, this path of grammaticalization is highly improbable.

Studies in grammaticalization, for instance, Heine and Kuteva, rather attest that transfer verbs such as 'take' often develop into aspect morphemes expressing completive notions.⁴² Apart from that, 'take' may be the source of other grammatical functions, such as causative, comitative, future, instrument, patient, and HAVE-possessive. The instrumental function is, in fact, attested by Dongolawi *-ged* which, as we will argue in more detail below, is a clitic case marker morphologically composed of the accusative *-g(i)* plus *ed* 'take.' We will also try to show that the Dongolawi instrumental marker *-ged* has even developed further, emerging as causal clause marker. This continued grammaticalization is, however, not considered in Heine and Kuteva's study.

As for the grammaticalization of *ed* resulting in the instrumental case marker and the causal clause marker *-ged*, it is worth mentioning that Armbruster is again the only scholar who has recognized the morphological complexity of *-ged* originating in the 'objective' (i.e. the accusative) case marker *-g(i)* plus *ed*.⁴³

4. The use of *ed* as a grammatical morpheme

Section 4 focuses on the various grammatical functions of *ed* which depend on the morphosyntactic context. When *ed* is attached to a verb root it functions as an aspect-marking suffix. When *ed* is combined with the accusative *-g(i)* the resulting morpheme *-ged* is employed as a clitic case marker on a noun phrase. Combined with the accusative *-g(i)* the resulting morpheme *-ged* attaches to finite verbs and assumes the function of a causal clause marker.

We will also account for the morphological composition of *-ged* and other nominal morphemes based on the accusative case marker.

4.1 *The use of ed as completive aspect marker*

In the following we will provide evidence of these various grammatical functions starting with the use of *ed* on verb roots. Example 4 displays a multiverb construction comprising two verbs of which only the final verb, *nog-ko-n*, is fully inflected for person and number. The values of the inflectional suffix *-n*, i.e. 3rd person singular have scope over the preceding verb, *nal-ed*, which lacks person and

42 HEINE & KUTEVA, *World Lexicon of Grammaticalization*, pp. 267–88.

43 ARMBRUSTER, *Dongolese Nubian: A Grammar*, §§ 4334, 4341, 6203.

number markers. This non-final verb is, however, extended by *-ed* which renders the completive meaning, i.e. the visiting is completed before the departure.

- 130 4 *nal-ed* *nog-ko-n*
 visit-CPL1 go.along-PT1-3SG
 ‘S/he visited him/her [and] left.’

To differentiate *-ed* from *-os* we gloss them as CPL1 and CPL2, respectively. When combined with the preterite 1, both aspect markers refer to the recent past, but there appears to be a subtle distinction between *-ed* and *-os*, as examples 5 and 6 suggest. In ex. 5 the *-ed* suffix places the eating process in the recent past. However when *-ed* is replaced by *-os*, the eating process is not only placed in the recent past but additionally conceived of as relating to a specific item known to both the speaker and the hearer. This suggests that *-os* is associated with a higher degree of transitivity.⁴⁴

- 5 *ay* *kal-ed-kor-i*
 1SG eat-CPL1-PT1-1SG
 ‘I have just eaten. / I have finished eating.’
- 6 *ay* *kal-os-kor-i*
 1SG eat-CPL2-PT1-1SG
 ‘I have just eaten it [a specific item known to both the speaker and the hearer].’

In contrast to the verb forms in exx. 5 and 6, which refer to specific situations, the verb form *kal-kor-i* (without the extension *-ed* or *-os*) renders a general perfective meaning, ‘I have eaten.’

The completive aspect marker *ed* may be combined with the stative aspect marker which originates in the lexical verb *aag* ‘sit, remain, stay.’ In contrast to *ed* which is a verbal suffix, *aag* is an inflected auxiliary verb. The construction involving *ed* and *aag* expresses a state reached after the completion of a process. In linguistics, this aspect is commonly called the resultative. Thus, *esmaan shaygi niied aagin* may be literally rendered as ‘Osman is in a state of having drunk tea,’ as in ex. 7.

- 7 *esmaan* *shay=gi* *nii-ed* *aag-in*
 Osman tea=ACC drink-CPL1 STAT1-3SG
 ‘Osman has [already] drunk tea.’

44 The concept of transitivity as a scalar value is here adopted from HOPPER & THOMPSON, “Transitivity in Grammar and Discourse.”

While ex. 7 attests the completive *-ed* combined with *aag* in the present tense form, ex. 8 shows the completive with *aag* in the preterite 1 form.⁴⁵ The literal meaning of ex. 8 is ‘Were they in a state of having [already] heard [it]?’

<i>tir</i>	<i>gijr-ed</i>	<i>te</i>	<i>aag-kor-an</i>
3PL	hear-CPL1	PRED.Q	STAT1-PT1-3PL
‘Had they [already] heard [it]?’			

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The aspect markers *-ed*, *-os*, and *-ed...aag* encode processes with an inherent terminal point. They are attested on lexical verbs, such as *nii* ‘drink,’ *nal* ‘see,’ *gijir* ‘hear,’ *ta* ‘come’ expressing “a process that leads up to a well-defined terminal point beyond which the process cannot continue.”⁴⁶ A detailed analysis of the distributional restrictions and the aspectual functions of *-ed*, *-os*, and *-ed...aag* is beyond the scope of this paper.

The morphemes *-ed* and *-os* are not only used with verbs referring to past processes. They are also attested with imperative forms. In this context *-ed* and *-os* express polite requests whereas imperative forms without *-ed* or *-os* are interpreted as strict orders. Interestingly, in combination with an imperative form, *-os* again refers to a specific item known to both the speaker and the hearer, whereas an imperative form combined with *-ed* does not render this meaning. Example 9 provides the imperative singular and plural forms as well as the forms extended by *-ed* and *-os*. Due to progressive assimilation, the adjacent consonants *dw* and *sw* are assimilated to be realized as *dd* and *ss*, respectively, as shown in the brackets.

	‘eat!’	‘please eat!’	‘please eat [it]!’
SG	<i>kal</i>	<i>kal-ed</i>	<i>kal-os</i>
PL	<i>kal-we</i>	<i>kal-ed-we</i> [<i>kaledde</i>]	<i>kal-os-we</i> [<i>kalosse</i>]

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The following table summarizes the three verbs whose functional extension has given rise to distinct aspect markers. This list is not exhaustive, however. There are several other verbs that have undergone grammaticalization processes which have resulted in morphemes with various aspect marking functions.

Lexical verb	Gloss	Function	Aspect marker
<i>ed</i>	take	completive (suffix)	<i>-ed</i>
<i>oos</i>	bring/send out	completive (suffix)	<i>-os</i> (short vowel)

Table 1: Aspect markers originating in lexical verbs

45 When suffixed to *gijir* ‘hear, listen,’ the suffix *-ed* triggers a change of the syllable structure. The root *gijir* changes its *cvcvc*-structure to *cvcc* and is realized as *gijr*.

46 COMRIE, *Aspect*.

Lexical verb	Gloss	Function	Aspect marker
<i>aag</i>	sit, stay, remain	stative (aux)	<i>aag</i>
<i>ed + aag</i>	take + stay	resultative (suffix + aux)	<i>-ed aag</i>

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A complete list of lexical verbs having developed aspectual functions would be much longer. Apart from the verbs in table 1, it would also include *aag*⁴⁷ ‘sit, stay, remain,’ *buu* ‘lie,’ *daa* ‘go, exist,’ *dol* ‘desire, want,’ *e* ‘say, be,’ *koo* ‘have,’ *teeb* ‘stand,’ *teeg* ‘squat.’⁴⁸

4.2 The use of *-ged* on noun phrases and finite verbs

Before providing evidence of the use of *-ged*, we want to consider the morphological composition of this morpheme. Following Armbruster, we assume that *-ged* is composed of two morphemes, *-gi* and *-ed*, the first morpheme being represented by the accusative case marker.⁴⁹ This marker has an allomorph, *-g*, which is selected when a vowel follows. Our assumption of *-ged* being morphologically based on the accusative is supported by our previous finding that most of the Dongolawi case markers are morphologically complex and that four of them have an initial velar *g*, suggesting that they are based on the accusative.⁵⁰ As shown in table 2, these case markers comprise the instrumental *-ged*, the allative 2 *-gir*, the allative 1 *-gaddi*, and the comitative *-gonon*, where **-ab* and **-don* are reconstructed morphemes. The morphological composition of these morphemes is commented on elsewhere and therefore need not be repeated here.⁵¹

Table 2: Case markers based on the Accusative *-g(i)*

Function	Case marker	Morphological components
Instrumental	<i>-g-ed</i>	< ACC <i>-g</i> + <i>-ed</i> < <i>ed</i> ‘take’
Allative 2	<i>-g-ir</i>	< ACC <i>-g</i> + LOC <i>-ir</i>
Allative 1	<i>-g-addi</i>	< ACC <i>-g</i> + <i>-addi</i> < <i>*-ab</i> + LOC <i>-ir</i>
Comitative	<i>-g-onon</i>	< ACC <i>-gi</i> + COM <i>*-don</i>

When the instrumental case marker *-ged* is attached to the final constituent of a noun phrase it assigns the role of instrument to that noun phrase, as seen in example 10, where *-ked* is an allomorph of *-ged*.⁵²

47 The verb *aag* has developed into two grammatical morphemes. i) The inflected auxiliary *aag* marks the stative (STAT1) when following a lexical verb. ii) The uninflected morpheme *aag* or *aa* marks continuous or habitual processes and precedes the lexical verb.

48 See also ARMBRUSTER, *Dongolese Nubian: A Grammar*, pp. 262–5.

49 Ibid., §§ 4334, 4341, 6203.

50 JAKOBI & EL-GUZUULI, “Heterosemy of Case Markers and Clause-Linkers in Dongolawi.”

51 Ibid.

52 The auxiliary *buu* (glossed as STAT2) is a marker for intransitive stative verbs. By contrast, the stative marked by the auxiliary *aag* (glossed as STAT1) is attested on transitive stative verbs, as seen in exx. 7 and 8.

kushar=ked kob buu-n
 key=INS shut STAT2-3SG
 'It is locked with a key.'

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However, as we show in section 5, the instrumental is not the only semantic role that *-ged* may encode.

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As a result of a further functional extension, the instrumental case marker *-ged* acquires the function of a causal clause subordinator suffixed to the final verb of these clauses, as illustrated in example 11.

[*sand-in*]-*ged* iig=*n* atti=*r* teeg=*in* 11
 fear-3SG-INS fire=GEN beside=LOC sit-3SG
 'Because s/he is afraid s/he sits by the fire.'

In the preceding section we have provided evidence of the use of *ed* as a lexical verb and of *-ed* as a grammaticalized morpheme used in various contexts. As a lexical verb Dongolawi *ed* has the meaning 'marry, take in marriage, take a wife.' Also, in a fixed expression with *aas* or *akhbaar* 'news,' *ed* is used in the sense of 'get news, get information.' Moreover, *ed* is attested in the verbal compound *etta* 'take (and) come, bring, fetch.' We therefore assume that the original meaning of *ed* is 'take,' as still attested in Kenzi and Old Nubian.

Apart from its function as a lexical verb, *-ed* is attested as a grammatical morpheme in distinct morphosyntactic contexts and functions.

1. When *-ed* is employed as a suffix on inflected or uninflected lexical verbs it marks the completive aspect.
2. When *-ed* is employed as a suffix on an uninflected lexical verb and when this verb is followed by the inflected auxiliary verb *aag* this construction marks the resultative aspect.
3. When *-ed* is combined with the accusative case marker *-g(i)* it is realized as *-ged* (or its allomorph *-ked*). As a clitic case marker *-ged* is attested on noun phrases having an instrumental role and several related semantic roles.
4. Again in combination with the accusative case marker *-g(i)*, the suffix *-ged* is attested on clause-final verbs where it functions as a subordinator of causal clauses.

In the following section we will try to identify the semantic factors that have contributed to the grammaticalization process of *ed* acquiring distinct grammatical functions.

5. Semantic factors motivating the functional extension of *ed*

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The following analysis of the semantic factors motivating the grammaticalization of *ed* is inspired by Lichtenberk's seminal paper 'Semantic Change and Heterosemy in Grammaticalization.' In this study he explores the functional extension of directional verbs of motion such as 'go,' 'come,' and 'return' in some Oceanic languages.

The motion verb 'come,' for instance, basically designates a movement to the deictic center from a location more or less distant from it. As Lichtenberk argues, this general meaning of 'come' comprises several semantic components including motion away from a source, motion towards a terminal point, approach to a destination, and spatial distance. When 'come' is used as a grammatical morpheme, one or several of these semantic components may be given prominence. The component 'motion away from a source,' for instance, may be the source of a marker of distance from the deictic center, whereas the component 'approaching a destination' may give rise to an inchoative or ingressive marker. This suggests that some semantic components of the original meaning persist when a lexical element acquires distinct grammatical functions.

Explaining why directed motion verbs often develop various grammatical functions, Lichtenberk points out that space and motion through space are fundamental human experiences coining our conception of the world. Language users form a connection between different conceptual domains comprising the conception of space and motion, the conception of the semantic components of motion verbs and the conception of linguistic forms reflecting these connections. He assumes that specific grammatical functions of motion verbs develop because language users perceive a commonality or similarity between the semantic components of motion verbs and these grammatical functions. According to Lichtenberk, the main cognitive devices that are used to establish this conceptual connection are metaphor and metonymy.

Common metaphors motivating the grammaticalization of motion verbs are TIME IS SPACE, a subtype of this metaphor being MOVEMENT IN TIME IS MOVEMENT IN SPACE. Another frequent metaphor is STATES ARE LOCATIONS.

In order to demonstrate how the various functional extensions of the transfer verb *ed* 'take' are motivated, it will be necessary to identify the relevant components of this verb and the conceptualizations involved. The verb *ed* basically designates the removal of a figure or object away from a location to a destination. This process implies the following semantic components:

- ▶ caused motion;
- ▶ a causer or agent-like force moving the figure;
- ▶ point of origin;
- ▶ destination;
- ▶ movement away from the source;
- ▶ movement towards/to the destination;
- ▶ change of place/location.

5.1 *The emergence of ed as an aspect marker*

Of these semantic components, ‘destination’ appears to be the prominent element that gives rise to the functional extension of *ed* to a completive aspect marker. That is, the concept of a spatial destination is extended to the temporal domain resulting in the concept of a terminal point in time. Thus the concept of destination is metaphorically connected with ‘terminal point,’ resulting in the metaphor TERMINAL POINT IS DESTINATION which is a subtype of the metaphor TIME IS SPACE. Since a terminal point is a notion closely related to the concept of completion we assume that this relationship has motivated the functional extension of *ed* to develop into a completive aspect marker whose function is to emphasize the terminal point of a process.

The grammaticalization of ‘take’ as completive aspect marker is also attested in other African languages. Hyman and Magaji provide two examples from Gwari, a (Niger-Congo) language of Nigeria.⁵³ In this language there are two lexical verbs denoting ‘take’; *lá* requires a singular object and *kú* requires a plural object. These verbs have developed the grammatical function of a completive aspect marker (glossed as CPL).

<i>wó</i>	<i>lá</i>	<i>shnamá</i>	<i>si</i>	
he	CPL	yam	buy	12a Gwari
‘He has bought a yam.’				

<i>wó</i>	<i>kú</i>	<i>à-shnamá</i>	<i>kǔ</i>	
he	CPL	PL-yam	buy	12b
‘He has bought some yams.’				

5.2 *The emergence of -ged as an instrumental case marker*

In section 4.2 we have accounted for the morphological composition of *-ged* which is made up of the accusative marker *-g(i)* and *ed*. Whereas the development of *-ed* as a completive aspect marker is conceptually related to the semantic component ‘destination,’ the emergence of *-ged* as an instrumental case marker appears to be

⁵³ HYMAN & MAGAJI, *Essentials of Gwari Grammar*, pp. 63f.

related to the semantic component ‘change of place/location.’ The relevant metaphor is A CHANGE OF STATE IS A CHANGE OF PLACE which is a subtype of STATES ARE LOCATIONS. The concept of taking is not only connected with a change of place/location but also with an instrument or agent bringing about this change. However, as Blake has pointed out, there is a difference between an agentive causer and an instrument, since causers are typically animate but “instruments are typically inanimate.”⁵⁴ This is reflected by the restriction of *-ged* to noun phrases having inanimate referents. There are, however, two exceptions, which will be addressed in section 5.3.

The semantic and functional extension of the verb take as instrumental case marker is not only attested in Dongolawi but also in other African languages (and in Jamaican creoles based on West African languages).⁵⁵ In Fon, for instance, a West African Niger-Congo language, there are serial verb constructions with ‘take’ preceding a noun. This construction serves to render an instrumental reading of that noun.⁵⁶ So ‘take knife’ has the reading ‘with a knife,’ see example 13. The same construction is attested in Nigerian Pidgin English,⁵⁷ as illustrated in example 14.

13	<i>kòkú</i>	<i>só</i>	<i>jiví</i>	<i>mà</i>	<i>kwíkwí</i>
Fon	Koku	take	knife	cut	banana
	‘Koku cut the banana with a knife.’				

14	<i>a</i>	<i>tek</i>	<i>knife</i>	<i>cut</i>	<i>di</i>	<i>bread</i>
Nigerian Pidgin English	1SG	take	knife	cut	DEF	bread
	‘I cut the bread with the knife.’					

These examples suggest that it is quite conceivable that the Dongolawi verb *ed* ‘take’ after its morphological merger with the accusative case marker *-g(i)* has become a case marker for noun phrases with the semantic role of instrument.

5.3. Polysemy of the instrumental case marker *-ged*

Although example 10 illustrates *-ged* marking the semantic role of instrument, this semantic role is not the only one which *-ged* may encode. In fact, *-ged* is a highly polysemous case marker encoding a wide variety of semantic roles, comprising a metaphorical instrument or tool, a means of transport, a location, a point in time, a period of time, a route or path of motion, a direction, a source of

54 BLAKE, Case, p. 69.

55 Ibid., 166) observes, “[v]erbs meaning ‘take’ often come to mark instruments. A construction that is literally ‘X taking axe chopped wood’ becomes reinterpreted as ‘X with axe chopped wood.’”

56 MCWHORTER, *Towards a new Model of Creole Genesis*, pp. 21–39.

57 DIMMENDAAL, *Historical Linguistics and the Comparative Study of African Languages*, p. 223.

motion, a material, a manner, a rate or price, a reference, a belonging/affiliation, a cause, a passive (inanimate) agent, and a language. The specific semantic interpretation strongly depends on the context, particularly on the basic meaning of the noun phrase to which *-ged* is attached. A noun phrase denoting a place, such as *tingaar* ‘westbank’ in ex. 17, is assigned the role of location when it is *-ged* marked. However, in the context of verbs of directed motion, as in exx. 13 and 15, *-ged* assigns the role of route or source.

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As mentioned in section 5.2, most of the referents of *INS*-marked noun phrases are inanimate. However, this is not valid for animals used as means of transport, see ex. 16, and for family members one lives with, see ex. 28, where *-ged* assigns the role of belonging or affiliation to a noun representing a kinship term. (Apparently this role differs from accompaniment which is encoded by the distinct comitative case marker *-gonon*.)

Metaphorical instrument/tool

<i>meryem</i>	<i>enn</i>	<i>erri=ged</i>	<i>ay=gi</i>	15
Mary	2SG.GEN	name=INS	1SG=ACC	[Sh]
<i>tagir-os</i>				
cover-CPL2.IMP.2SG				
‘Mary, please protect me by your name!’				

Means of transport

<i>ay</i>	<i>kaj=ked</i>	<i>bi</i>	<i>juu-r-i</i>	16
1SG	horse=INS	FUT	go-R-1SG	[Lex 143]
‘I shall go on horseback.’				

Location

<i>tingaar=ked</i>	<i>bel-ko-n</i>			17
west.bank=INS	get.out-PT1-3SG			[M 104]
‘S/he got out [of the boat] on the west bank.’				

Point in time

<i>ay</i>	<i>abaag=ked</i>	<i>bi</i>	<i>nal-l-i</i>	18
1SG	end=INS	FUT	see-R-1SG	[A]
‘I will look at it later’				

Period of time

<i>awad</i>	<i>door</i>	<i>weer=ked</i>	<i>doha=r</i>	19
Awad	week	one=INS	Doha=LOC	[Sh]
<i>bi</i>	<i>taa-n</i>			
FUT	come-3SG			
‘Awad will come to Doha for one week.’				

20 *Route or path of motion*

- [A] ay urdi=*ged* taa-gor-i
 1SG urdi=INS come-PT1-1SG
 'I came via Urdi.'

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Direction

- 21 medresa=*gi* an kaa=*n* kannee=*ged*
 [Sh] school=ACC 1PL.GEN house=GEN north=INS
 gony-kor-an
 build-PT1-3PL
 'They built the school north of our house.'

Source of motion

- 22 isaay=*ged* daa=*n*
 [A] where=INS come-2SG
 'From where are you coming?'

Material

- 23 kaarti=*gi* kinisse=*ged* aaw-ir-an
 [Sh] fence=ACC thorn=INS make-R-3PL
 'They make the fence with thorns.'

Manner, when -ged is attached to an abstract noun

- 24 mursi=*ged* nal-ko-mun e=*n*
 [Sh] lie=INS see-PT1-NEG.3SG say-3SG
 'Falsely he says he did not see [him/her/it].'

Rate or price

- 25 in=*gi* girish=*n* toorti=*ged* jaan-kor-i
 [Lex 62] this=ACC girish=GEN half=INS buy-PT1-1SG
 'I bought this for half a girish.'

Reference

- 26 an-een=*n* erde=*ged* ed-kor-i
 [Sh] 1PL.GEN-mother=GEN satisfaction=INS marry-PT1-1SG
 'I married to the satisfaction of my mother.'

Cause or reason

- 27 milaarya=*ged* dii-go=*n*
 [Sh] malaria=INS die-PT1-3SG
 'S/he died of malaria.'

Belonging or affiliation

<i>man=do</i>	<i>tenn</i>	<i>een=ged</i>	<i>aag-in</i>	28
that=LOC	3SG.GEN	wife=INS	live-3SG	[Lex 62]
'He lives over there with his wife.'				

Passive agent

<i>ann</i>	<i>ii</i>	<i>kinisse=ged</i>	<i>barij-katti-go-n</i>	29
1SG.GEN	hand	thorn=INS	scratch-PASS-PT1-3SG	[Lex 62]
'My hands were scratched by (the) thorns.'				

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Language

<i>arabi=ged</i>	<i>banynyi-r-an</i>	30
Arab=INS	speak-R-3PL	[Lex 62]
'They speak in Arabic.'		

5.4 *The instrumental case marker -ged as a marker of causal clauses*

We assume that the evolution of the instrumental case marker is an intermediate stage from which the causal clause marker has developed. This assumption is corroborated by our study of Dongolawi case markers of which several are additionally used as subordinate clause markers.⁵⁸ The accusative marker *-gi*, for instance, marks object complement clauses, and the locative *r* marks temporal clauses.

The functional extension of *-ged* as a causal clause marker has probably been motivated by the semantic component 'change of location' which is metaphorically connected with a CHANGE OF STATE. Since changes are conceptualized as being caused, it is conceivable that the notion of cause has contributed to the development of *-ged* as a subordinator of causal clauses.

[<i>ay oddi-r-i</i>]- <i>ged</i>	<i>jelli=r</i>	<i>nog-ko-mun</i>	31
1SG sick-R-1SG-INS	work=LOC	go-PT1-NEG.1SG	[Sh]
'Because I am sick I did not go to work.'			

Furthermore, the distinct morphosyntactic context of *-ged* on clause-final verbs rather than on noun phrases contributes to changing its semantic and grammatical function.

6. Summary of findings

Our paper is a case study of the functional extension of *ed* 'take.' We have tried to show that *ed* has given rise to three distinct grammatical morphemes each used in a particular morphosyntactic context. Whereas the source item *ed* is a lexical verb, the completive aspect

⁵⁸ JAKOBI & EL-GUZUULI, "Heterosemy of Case Markers and Clause-Linkers in Dongolawi."

marker *-ed* is a verbal suffix, and the instrumental case marker *-ged* can be identified as a morphologically complex clitic attaching to the final constituent of a noun phrase. The causal clause marker *-ged*, in turn, is a clause subordinator suffixed to the finite verb of that clause.

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Having a common historical source but different morphosyntactic and semantic and functional properties, the morphemes based on *ed* provide an example of a semantic and functional change known as heterosemy.⁵⁹

The evolution of functional elements from a lexical source is possible “[s]ince meanings are not unanalyzed wholes” but are structured.⁶⁰ The basic meaning of *ed* ‘take’ has several identifiable semantic components of which ‘destination’ and ‘change of location’ appear to have motivated the evolution of the completive aspect marker *-ed* and the instrumental case marker *-ged*, respectively. The causal clause marker *-ged* is a functional extension of the instrumental case marker which has served as an intermediary stage.

The conceptual connection between the semantic components of the lexical source and the grammatical meaning of the extensions is established by metaphors. The semantic component ‘destination,’ for instance, is metaphorically conceived of as a terminal point. In other words, the connection between these two concepts, destination and terminal point, is established by the metaphor TERMINAL POINT IS DESTINATION which is a subtype of the more general metaphor TIME IS SPACE. Another aspect that may be involved in the semantic and functional extension of *ed* is the fact that a terminal point is often associated with a telic situation and the completion of a process. Therefore it is conceivable that *ed* has emerged as a completive aspect marker, particularly on verbs designating processes with a terminal point.

The development of the instrumental case marker appears to be motivated by the semantic component ‘change of location.’ The concept of change of location is metaphorically connected with a change of state, the metaphor CHANGE OF STATE IS A CHANGE OF LOCATION being a subtype of the more general metaphor STATES ARE LOCATIONS. A change of location and a change of state is commonly brought about by an instrument or agent causing the change. While an agentive causer is typically animate, an instrument is inanimate. This latter property is apparently a conceptual part of *-ged* which – apart from two exceptions, see section 5 – commonly occurs on noun phrases having inanimate referents. Because of the connections between the concepts ‘change of location,’ ‘change of state’ and

59 LICHTENBERK, “Semantic Change and Heterosemy in Grammaticalization,” p. 480.

60 *Ibid.*, p. 505.

‘instrument’ it is quite conceivable that *-ged* has developed into a case marker encoding the semantic role of instrument and that it has further developed into a causal clause marker.

The following semantic map is a device to visualize the relationship between the source item *ed* and its functional extensions. The path leading to the instrumental case marker and further to the causal clause marker is motivated by the semantic component ‘change of location’ which is metaphorically viewed as change of state. The other path towards the completive aspect marker is motivated by the semantic component ‘destination’ which is metaphorically conceived as terminal point of a process.

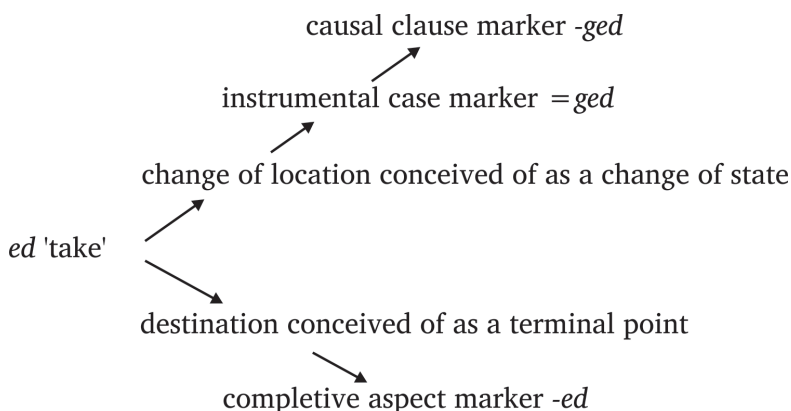


Diagram 1:
Semantic map
visualizing the
grammatical-
ization paths
of *ed*

The functional extension of *ed* has mainly involved two processes, i) the re-analysis of the lexical verb *ed* resulting in the emergence of three grammatical forms, the verbal aspect suffix *-ed*, the clitic case marker *=ged*, and the suffixed subordinator *-ged*; and ii) metaphorical shifts from concrete to abstract, e.g. from destination in space to terminal point in time, from change of location to change of state.⁶¹ Thus the development of the three grammatical morphemes from the lexical source *ed* ‘take’ corroborates the unidirectionality hypothesis which says that a grammaticalization path leads from a lexical source to grammatical forms (rather than in the reverse direction).

61 BÖRJARS & VINCENT, “Grammaticalization and Directionality.”

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