

The Emergence of the Infinitival Left Periphery

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The languages of the world differ with respect as to whether they allow for *wh*-infinitives and infinitival relative clauses. No systematic analysis has been proposed so far for this language variation. In this talk, I postulate the *Wh-Infinitive-Correlation* that links the (non-) availability of *wh*-infinitives and infinitival relatives to morphological properties of the infinitival C-system. It is shown that *wh*-infinitives as well as infinitival relatives are impossible in languages in which the left periphery of the infinitive cannot be occupied with an infinitival complementizer, an infinitival marker, or more generally, with a base-generated phonetically realized element. In contrast, languages with *wh*-infinitives do exhibit non-finite complementizers. The discussion is mostly based on Romance and Germanic languages.

A close connection exists between the absence of overt subordinators in the infinitival C-system and the possibility of interrogative and relative clause formation with infinitives: languages which do not have phonetically realized complementizers with certain infinitives do not allow for infinitival questions and relative clauses with these infinitives. Consider, for example, the status of the infinitival marker *to* in English, *zu* in German, and *te* in Dutch. It has been claimed in the literature that infinitives in Indo-European languages have developed from verbal nouns (see Lightfoot 1979, Kageyama 1992, Nunes 1995, Jarad 1997, among others). As a verbal noun, the infinitive was governed by a preposition, for example, by the preposition *to* in Old English and *zi* in Old High German. In the modern European languages the nominal infinitive has become a verb and *zi* and *to* have lost their prepositional categorial nature and have become “infinitival markers.” This is the case with the control infinitives of all modern Germanic languages. Modern German *zu*, Dutch *te* and English *to* have all been analyzed in a similar way, i.e. as a verbal particle in T^0 that has the distribution of an auxiliary, although *zu* and *te* differ from *to* in so far as they are bound whereas *to* is a free morpheme. Neither *to* nor *zu* and *te* are prefixes that are combined with the infinitival verb in the lexicon, and neither *to*, *te* nor *zu* occupy a position in the infinitival C-system (see Bennis & Hoekstra 1989a,b; Beukema and den Dikken 1989, Den Besten & Broekhuis 1989; Rutten 1991, IJbema 2001, among others). In *to*-infinitives, the prepositional complementizer *for* is realized in the infinitival C-system of complement and relative clauses (1)-(2). Dutch has the *om-te* infinitive. *Om* is the counterpart of *for* (although *om* cannot appear with an overt subject in the infinitive). Like English *for* it appears in adjunct clauses (see (3)-(4)) and acts as a mere subordinator in infinitival complement clauses, as shown in (5).

- (1) I want [_{CP} for [_{TP} John to win]].
(2) There is someone [_{CP} for [_{TP} John to talk to]].
(3) Bernard ging naar Amerika [om [beroemd te worden]].
 ‘Bernard went to America, in order to become famous.’
(4) ... een bal [_{CP} *Op* om [mee ____ te spelen]].
 A ball (which) Comp with to play
(5) ... dat zij probeerde [_{CP} (om) [_{TP} het boek te lezen]].
 that she tried (Comp) the book-acc to read.

As a complementizer, *om* occupies the infinitival C-system (Bennis & Hoekstra 1989a,b; Den Besten & Broekhuis 1989a; Broekhuis & Hoekstra 1990; Rutten 1991, IJbema 2001). Also, diachronically, *for* shows parallels with *om*. Originally, *for* acted as a locative preposition, meaning ‘in front of’. The original meaning of *om* is likewise that of a locative preposition ‘around’. In the course of time, the meaning of *om* has extended to express cause and purpose in infinitivals as in (3). The oldest *for*-infinitives are found in Old English (OE). Lightfoot (1979: 196) mentions that the construction illustrated in (1)-(2) existed in Old-English with the structure [_{PP} *for* [_{PRO} to leave]] and that the preposition has just recently become a complementizer

in Modern English. Interestingly, during the OE and early ME period infinitival relatives and *wh*-infinitives are absent. A similar coincidence is found with *om-te* infinitives (see Ijbema 2001 for discussion). *Wh*-infinitives and infinitival relatives are not found before *for* and *om* have become infinitival complementizers.

Modern German is similar to Old/Middle English and Old/Middle Dutch. It lacks infinitival complementizers, *wh*-interrogatives, and infinitival relatives at the same time. In German, the category change from a preposition selecting infinitive to an infinitival complementizer has not taken place. Therefore, *wh*-infinitives are impossible in Modern German in contrast to Modern English and Modern Dutch (6)-(8):

(6) *Ich weiss nicht [*wen* [___ zu besuchen]].

I know not who to visit

(7) I don't know [*when* [to visit Mary]].

(8) Ik weet niet [*wie* [___ te bezoeken]].

I know not who to visit

It will be shown that the observed relation between phonetically realized complementizers and *wh*-infinitives is further confirmed by other Germanic (Norwegian, Swedish, Danish) Slavic (Polish, Russian) and Romance languages (French, Italian, European Portuguese, Italian, Spanish) languages. Based on the data, I propose (9):

(9) *Wh-Infinitive Generalization*

If a language possesses *wh*-movement to Spec CP in infinitives, then this language possesses the option of filling the C-system of this (type of) infinitive with a base generated overt element.

The two properties mentioned in (9), operators in an infinitival Spec CP and infinitival complementizers, imply that there are four potential cases: i. [+Op-in-SpecCP_{Inf}, +Comp_{Inf}], ii. [-Op-in-SpecCP_{Inf}, -Comp_{Inf}], iii. [+Op-in-SpecCP_{Inf}, -Comp_{Inf}], and iv. [-Op-in-SpecCP_{Inf}, +Comp_{Inf}]. The first group (i) consists of languages in which *wh*-infinitives and infinitival complementizers are found (Dutch, English (control *to*-infinitives), French, Italian, Polish, Spanish, Europ.-Portuguese, ...). The second group (ii) are languages in which neither *wh*-infinitives nor infinitival complementizers are found (Danish, German, Norwegian, Swedish, English gerunds, ...). According (9), no languages of the third group (iii) should exist in which *wh*-infinitives do exist but no infinitival complementizers, and in fact, one does not find any empirical exemplification of such a language type. (9) predicts that a final group of languages, shown in (iv), should exist: languages in which infinitival complementizers are found but no *wh*-infinitives. Recall the discussion in the preceding section concerning the development of the complementizers *for* and *om* in English and Dutch. In terms of language change, the implicational generalization (9) predicts that a certain property X, such as for example [+Op-in-SpecCP_{Inf}], can be found in a language if that language has acquired another property Y before X, such as [+Comp_{Inf}]. With respect to language change, the implicational generalization (9) predicts likewise that the property [+Comp_{Inf}] can be lost only after the property [+Op-in-SpecCP_{Inf}] is lost. We have already seen that this was the case in English and Dutch. *Wh*-infinitives and infinitival relatives are found after (and not before) *for* and *om* have become infinitival complementizers. A certain historical period would then represent languages of the type (iv). This group consists of languages such as Middle English, and Middle Dutch. However, further languages (or dialects) exist, confirming the idea that generalization (36) makes correct predictions with respect to this language change.

In order to derive the *Wh-Infinitive-Generalization*, I argue, based on Chomsky's (2000, 2001, 2005) analysis of raising and ECM-infinitives that control C⁰ is "defective" in languages without *wh*-infinitives (/ infinitival relatives) where "defective" infinitival C⁰ is understood in analogy to defective T^{0_{def}}, i.e. C^{0_{def}} cannot bear the complete range of features specific for C⁰. A defective C-system bears a full set of φ-features and Tense-features that is transferred to T⁰ (assuming the technology in Chomsky 2005), but it lacks the possibility of being endowed with a [*focus*]-/[*wh*]-feature in *wh*-question formation (or with a [*topic*]-/[*pred*]-feature in relative clause formation). The reason is that Force-, Foc- and Top-features are not realized in the left periphery of infinitives with a defective C-system but only Fin-features (i.e. FinP). At the moment ForceP evolves in infinitives as a result of infinitival complementizer evolution, TopP and FocP as well, i.e. the whole left periphery may be projected, giving rise to relative clause and indirect *wh*-question formation. The

situation in infinitives with a defective C-system is that (similar to an NP in the edge of T_{def}) a *wh* or a relative operator may move to Spec of FinP, due to the possibility of C_{def} being endowed with an edge-feature, but it may not remain there, i.e. in a position in which it cannot be properly interpreted. This analysis derives the fact that Spec $C_{\text{def}}P$ and Spec $T_{\text{def}}P$ are only intermediate landing sites. It has been pointed out by Chomsky (1998) and others, that within the principles and parameters framework, adequate typological generalizations can be interpreted as empirical generalizations that should be deriveable from grammatical principles and parameters. The present analysis exemplifies that the principles and parameters framework represents an adequate model for explaining language change and typological variation.

References

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