

FROM PURPOSIVE TO INFINITIVE — A UNIVERSAL PATH  
OF GRAMMATICIZATION\*

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1. INTRODUCTION

According to a widespread view, the infinitive is the basic and maximally unmarked form of the verb that carries no meaning of its own in addition to the meaning of the verb stem and that is therefore ideally suited for listing verbs in a dictionary, much like the nominative singular for nouns. This view can be found, for example, in Jakobson's influential 1957 article, and in two recent definitions from dictionaries of linguistics:

- (i) "Among all verbal forms, it is the infinitive which carries the minimal grammatical information. It says nothing either about the participants of the narrated event or about the relation of this event to other narrated events and to the speech event". (Jakobson 1957 : 142)
- (ii) "Infinitive: A traditional term for the non-finite form of the verb usually cited as its unmarked or base form, e.g. *go, walk, kick, N* (Crystal 1985 : 157)
- (iii) "Infinitiv, auch Grundform oder Nennform: ursprünglich nominale Form des Verbs, die die Bedeutung des Verbs an sich, d.h. ohne formalen Ausdruck der verbalen Kategorien Person, Numerus, Modus und Tempus bezeichnet, z.B. *gehen, schlafen, leuchten.*" (Conrad (ed.) 1985 : 100)

The fact that the infinitive is often regarded by linguists as the basic form of the verb may be related to the widespread lexicographic practice of listing verbs in dictionaries in this form. However, this practice is rather recent and by no means universal: In many languages a relatively unmarked finite form of the verb is conventionally used in dictionaries (e.g. the first person sin-

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gular of the Present in Latin and Greek, or the third person masculine singular of the Perfect in Hebrew and Arabic).

In this paper I will argue that the traditional view of the infinitive reflected in the above quotations is wrong (or that it is correct only to a very limited extent). The infinitives that occur in most European (and many non-European) languages do have a meaning and also a form of their own. This meaning and form and the relation between them can best be understood if the infinitive is approached from a diachronic perspective.

This paper describes the evolution of the infinitive in terms of its progressive formal and semantic grammaticization, using the German infinitive as an example. It is shown that the infinitive has its diachronic origin in a nominal purposive form and that the grammaticization of a purposive form to an infinitive is a widespread phenomenon in the languages of the world. This original function of the infinitive is important for understanding its nature, and the most interesting syntactic property of infinitives, the absence of an explicit subject, can be shown to follow from it.

Finally I show (using examples from Ancient and Modern Greek) that the diachronic process of the grammaticization of a purposive form is even more general, occurring also in the case of purposive markers in finite clauses.

## 2. INFINITIVES COME FROM PURPOSIVE ACTION NOMINALS

A few examples are sufficient to show that the infinitive is by no means semantically empty, cf. the following minimal pairs from English (1) and German (2), where the same complement-taking predicate takes either an infinitive or a finite verb.

- (1) a. *Mary told Tom to write the article.*  
 b. *Tom told Mary that he was writing the article.*  
 (2) a. *Es ist wichtig für mich, das zu wissen.*  
 'It is important for me to know that'.  
 b. *Es ist wichtig für mich, dass ich das weiss.*  
 'The fact that I know that is important for me'.

In these cases the infinitive clearly has a modal meaning that can be described as "non-factual" or "irrealis" and that distinguishes it from the corresponding finite indicative verb forms. Jakobson's claim that "it says nothing...about the relation of [the

narrated event] to other narrated events and to the speech event" is therefore incorrect.

Also formally the infinitive is not completely unmarked. For instance, in German it is marked with the suffix *-en*, in Russian with *-t'*, in Latin with *-re*, etc. Even more striking is the particle in English (corresponding to *zu* in German). In generative grammar this *to/zu* is usually assigned to one of the two abstract categories COMP and INFL (e.g. Wilder 1988, van Gelderen 1988). But this does not explain why it is *to* and not any other element (say, *the*, or *through*) that is used in this way. The relation between form and function is arbitrary in generative grammar.

I claim that it is no coincidence that the infinitive is marked by an element that is synonymous with the allative preposition *to* (German *zu*), and that there is a close connection between the modal meaning of the infinitive and the allative meaning of the preposition *to/zu*. This connection is not easy to capture in synchronic terms. But from a historical perspective, the two are of course identical. The locative meaning of the allative preposition is the original meaning which has eventually given rise to the meaning of the infinitive.

The first step is the extension from the local allative meaning to the meaning of purpose, which can be seen in (3).

- (3) a. *Mary went to Sabina's apartment.*  
 b. *Mary went to take photos of Sabina.*  
 c. *Mary bought a camera to take photos of Sabina.*

In both (3a) and (3b) the *to*-phrase expresses a direction, but whereas (3a) is purely locative, (3b) can be taken as expressing a purpose. The purposive meaning is clear beyond doubt in (3c), where the action is not inherently directional.

Old High German is still fairly close to this original situation where the allative preposition (Old High German *zi*) is used with verbs only to express purpose. According to Erdmann 1874 : §351, the *zi*-infinitive has a purposive meaning in most cases in Otfrid's *Liber Evangeliorum* (one of the most important Old High German original documents, not translated from Latin), e.g.:

- (4) a. *er ward zi manne, bi si zi irsterbanne* (Otfrid V, 12, 27)  
 he became to man with them to die  
 '[Christ] became a man in order to die with them'.



- b. *biwunten sie nan mit lininemo sabane thar tho zi bigrabanne*  
 wrapped they him with linen shroud there to bury  
 (Otfrid IV, 35, 33)  
 'They wrapped him in a linen shroud to bury him there'.

Later the *zi*-infinitive is extended to contexts where it is not a modifier, but an argument of a complement-taking verb. This use is still quite rare in Otfrid. An example is:

- (5) *joh wer thih bitit thanne ouh hiar zi drinkanne* (Otfrid II, 14, 24)  
 and who thee asks now also here to drink  
 'And he who is asking you now here to drink (i.e. for a drink)

Complement clauses corresponding to Modern German *zu*-infinitives are otherwise expressed by bare infinitives (6b) or finite clauses (6a).

- (6) a. *manota er ouh the suntar thaz sie thaz firbarin* (Otfrid IV, 6, 41 - 42)  
 admonished he also those especially that they that avoided  
 'And he admonished them especially to avoid that.'  
 b. *joh ih biginne redinon, wio er bigonda bredigon* (Otfrid I, 2, 7)  
 and I begin talk as he began preach  
 'And I begin to talk, as he began to preach.'

The *zu*-infinitive in complement clauses is becoming more and more widespread only later, in Middle High German and especially in Early New High German. This is reflected in the following quotations:

"Die Verbindung von *zu* mit Inf., die ursprünglich der Bedeutung der Präposition *zu* entsprechend nur den Zweck bezeichnete, hat im Neuhochdeutschen eine immer ausgedehntere Verbreitung gefunden. Sie hat sich einerseits an die Stelle des einfachen Inf. eingedrängt, andererseits an die Stelle von abhängigen Sätzen." (Paul 1920: §330)

"From a historical point of view, *zu* (when it appears with the infinitive) developed from a very preposition-like morpheme to a very complementizer-like morpheme as it wormed its way into more and more constructions where previously only the bare infinitive or finite clause complements had stood." (Ebert 1976: 81)

The specific features of this grammaticization change will be dealt with in more detail in section 4. First I would like to show that this diachronic change is not an isolated event but is an instantiation of a very general process that happens in language after language.

### 3. PURPOSE TO INFINITIVE AS A UNIVERSAL GRAMMATICIZATION PATH

A well-known example of grammaticization is the evolution of future markers from verbs of obligation, volition, or movement, e.g. the Romance future (from Latin *habere* 'have (to)'), the English *will*-future (Old English *will* 'want'), and the more recent English (and Romance) *gonna*-future. These developments are not limited to the languages of Europe, but can be found widely in the languages of the world (Bybee & Pagliuca 1987). Such converging paths of grammaticization (as represented in Figure 1) can be called universal in the sense that this development can happen at any time in any language, independently of its genetic affiliation or areal location.

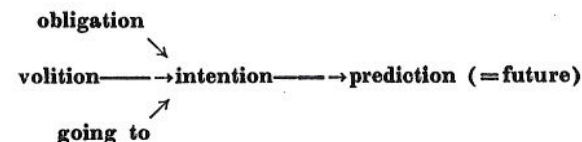


Figure 1. *Semantic grammaticization of future*

In much the same way, the evolution of infinitive-like forms (verb forms used in irrealis complement clauses) from purposive forms is not limited to West Germanic languages like German and English. Indo-European linguists have been aware for a long time (cf. Jolly 1873) that the infinitives of the ancient Indo-European languages (especially Latin, Ancient Greek, Old Indo-Iranian, Slavic, Hittite) go back to verbal nouns in the dative, accusative or locative case (cf. also Jeffers 1975, Gippert 1978). Dative, accusative and locative are exactly those cases that were available in old Indo-European for the expression of direction, goal and purpose, since there was no special allative case.

Among the modern Indo-European languages we find similar formations in the Romance languages (using Latin *ad* 'to', *de* 'concerning'), in the Scandinavian Germanic languages (using *at*, cf. English *at*), and Albanian *për të* (plus participle). Albanian *për* means 'for': Note that the purposive meaning arises not only from a local allative meaning, but also from a benefactive or causal meaning.



Infinitives whose morphological form shows that they are originally allative or benefactive-marked verb forms are also found in non-Indo-European languages of Europe, Asia and Africa:

(i) TURKIC (Fedotov 1981):

(a) The Chuvash infinitive *-maškan* (<*-makšan*) was formed with the verbal noun suffix *\*-mak* and the postposition *\*ižin* 'for'.

(b) The Gagauz infinitive *-maa* (<*-may-a*) consists of the same verbal noun suffix *\*-mak* and the dative ending *-a*.

(c) In Tatar and Bashkir, there is an infinitive in *-ar-ya*, consisting of the verbal noun in *-ar* and the dative ending *-ya*.

(ii) FINNO-UGRIC:

(a) The Udmurt infinitive *-ny* is originally a verbal noun in *-n* plus a lative (i.e. directional) case ending (Serebrennikov 1963); the same is true for Hungarian *-ni*.

(b) The Finnish infinitive consists of the verbal noun *-ma* plus the illative case ending. Very similar is the infinitive in Mari (Kokla 1986).

(iii) SEMITIC. Hebrew *le-* is both the dative case prefix and the infinitive marker. In Biblical Hebrew, a number of other case prefixes could be used in the same way with the verbal noun (*be-* 'in', *ke-* 'as'). In Modern Hebrew, this is no longer common, and the *le-* infinitive is reinforced with *kdej* 'in order' to express the purpose sense (on the Hebrew infinitive, cf. Fox 1984). Akkadian *ana* 'to' + verbal noun is completely analogous (cf. Fehling 1980).

(iv) BANTU. In Swahili (cf. Jensen 1923; other Bantu languages are similar), *ku-* is an infinitive marker and also a class marker of one of the locative noun classes.

(v) NAKHO-DAGHESTANIAN (northeastern Caucasus). Lezgian has a verb form in *-iz* called purposive which in actual fact is rarely used to express purpose. Most of the time it occurs in complement clauses to complement-taking verbs like 'begin', 'cause' (Gadžiev 1954 : 51 - 57). This suffix is originally identical to the dative suffix *-(i)z*. Similar infinitives can be found in other southern Daghestanian languages, e.g. Udi (Schulze 1983).

(vi) DRAVIDIAN (Subrahmanyam 1971). The reconstructed infinitive ending for Proto-Kolami-Parji is *\*-e/unk*, which should be compared to the reconstructed dative ending *\*(u)nk*. In Kannada and Telugu there exist compound suffixes (*-al-ke* and *-āni-ki*,

respectively) made up of the verbal noun suffix plus the dative case suffix.

In the forms just cited the purposive form has grammaticized to such a degree that the resulting verb form is called an infinitive. In most cases, the original purposive function can no longer be fulfilled by this infinitive.

On the other hand, there are cases where a purposive form has already entered the path of grammaticization but has not grammaticized strongly enough to be considered a separate isolated form called "infinitive". Examples come from a wide variety of languages from all over the world:<sup>1</sup>

(7) a. Old Irish *do* (Jeffers 1976 : 139)

(purpose:) *is do immarchor chóre dotlagat* (Wb.5a5)  
it.is to the.carrying of.peace that.they.come  
'They come to bring peace'.

(complement:) *indli adchobra=som do htcc* (Wb.28b1)  
those whom.he.desires do save (VN)  
'Those that he wishes to save.'

b. Persian *be-*

(allative:) *u raft-e ast be-šahr*  
she go-PTCP is ALL-city  
'She has gone to the city.'

(complement:) *man Žala-rā be-dādan-e asb*  
I Žala-ACC ALL-give:VN-ATTR horse  
*be-Ali farmān-dādam*  
ALL-Ali order-give:1SG  
'I ordered Žala to give the horse to Ali'.

c. Maori *ki*

(allative:) *e hoki ana au ki te kainga*  
PRES return PROG I ALL ART village  
'I am going back to the village'.

<sup>1</sup> Some of these examples are from a series of short notes in the Stanford Working Papers on Language Universals, beginning with Moravcsik 1972 (Persian: Brian D. Joseph. 1975. "Case Marking and Complementizers in Persian", *WPLU* 17: 141 - 44; Maori: R. Clark. 1973. "Case markers and complementizers: a Maori example", *WPLU* 12: 145 - 47; Diegueño: Larry Gorbet. 1973. "Case markers and Complementizers in Diegueño", *WPLU* 11: 219 - 222). No attempt is made there to explain the recurring use of allative/purposive case markers as infinitive-like "complementizers".



(purpose:) *e hoki ana au ki te tiki i*  
 PRES return PROG I ALL ART get ACC  
*taaku tamaiti*  
 my child  
 'I am going back to get my child'.

(complement:) *ka tiimata te rangatira ki te koorero*  
 AOR begin ART chief ALL ART speak  
 'The chief began to speak'.

d. Bidjandjadjara (Australian) *-ku* (Blake 1976)

(NP-purpose) *wati kuka-ku kutipitja-nu*  
 man meat-DAT go-PAST  
 'The man went for meat'.

(purpose:) *wati-lu kuka kati-nu mama-lu*  
 man-ERG meat bring-PAST father-ERG  
*nyaku-tja-ku*  
 see-NOMLZ-DAT  
 'The man brought the meat for his father to see (it)'.

(complement:) *wati-lu watja-nu waru yura-ltya-ku*  
 man-ERG say-PAST wood gather-NOMLZ-DAT  
 'The man told him to gather firewood'.

e. Diegueño (Yuman) *-LY*

(illative:) *?awa:-pu-LY*  
 house-DEF-ILLAT  
 'in the house/into the house'

(complement:) *nya:-ɛ ?-a:-LY ?-ar*  
 I-NOM 1SG-go-ILLAT 1SG-want  
 'I want to go'.

f. Cape Verde Creole (Portuguese-based) *pa* (Washabaugh 1975)

(allative:) *nu ba pa' fora pa' camp'*  
 we go ALL outside ALL field  
 'We went out to the fields'.

(complement:) *n ta padabu pa juda-n*  
 I PRES beg ALL help-1SG.OBJ  
 'I beg you to help me'.

The world-wide distribution of infinitives and similar complement forms that come from purposive forms shows that this development occurs independently in many places and is not merely an areal feature of European languages, as Fehling 1980 claims.

According to Fehling, infinitives in European languages that are formed with an allative preposition are due to areal diffusion and can ultimately be traced back to Akkadian. At best, however, the general tendency of grammaticizing purposive action nominals and turning them into infinitives was reinforced by contact among European languages.

#### 4. THE DEVELOPMENT OF THE GERMAN ZU-INFINITIVE AS GRAMMATICIZATION

In this section I show in more detail that the evolution from the (more or less nominal) purposive *zu*-form to an infinitive in German is a grammaticization change. I will be using the framework of C. Lehmann (1982, 1985), the most systematic treatment of grammaticization available. Lehmann, following Kuryłowicz, defines grammaticization as "a process which turns lexemes into grammatical formatives and makes grammatical formatives still more grammatical". The latter qualification is essential for infinitives, because infinitives do not represent standard examples of grammaticization, which involve a change from a periphrastic construction to an inflectional morpheme, as when a noun turns into an adposition, an auxiliary turns into an aspect marker, or the verb 'say' turns into a complementizer. Rather, they start out as (purpose-marking) adpositional phrases or simply case forms of verbal nouns. The adposition (or the case affix) already clearly has a grammatical status. What happens in infinitives is that the grammatical element marking the infinitive becomes even "more grammatical", i.e. more grammaticized.

Lehmann distinguishes six parameters of grammaticization, three paradigmatic ones and three syntagmatic ones (1985 : 306).

##### *Lehmann's parameters of grammaticization*

<i>paradigmatic</i>	<i>syntagmatic</i>	<i>(cover term)</i>
+paradigmaticity	+bondedness	(cohesion)
—paradigmatic variability	—syntagmatic variability	(variability)
—integrity	—scope	(weight)

The higher the value of an item is on each of these parameters, the higher is the degree of its grammaticization. I will now discuss



each of these parameters in turn as they apply to the German infinitive.

(i) An increase in **paradigmaticity** means that the element becomes more and more integrated into an increasingly small, homogeneous paradigm. In the case of the infinitive, this has reached the ultimate limit: the paradigm consists of one member. In Old High German, the old infinitive could be used with the prepositions *in*, *mit*, *zi*, and probably others (Erdmann 1874 : 211). By the time of Middle High German, this paradigm was reduced to one preposition (*ze*), and this form more and more becomes a member of the verbal paradigm. The increase of paradigmaticity is particularly striking in the history of Old Indic. In the oldest texts (Vedic) about 19 different "infinitives" are attested (Disterheft 1980), formed from various verbal-noun stems and in various cases. Only one survived in classical Old Indic (Sanskrit), the *-tum*-infinitive, which is the accusative of the *-tu*-verbal noun.

(ii) **Bondedness** is cohesion within a syntagm. The commonly recognized stages along the continuum of bondedness are *free word clitic - affix*. In Old English, *tō* was probably a free word because it had a long vowel. In modern English, *to* is probably a proclitic, although in the written language certain adverbial phrases may intervene between *to* and the verb. In German, *zu* has probably always been a clitic, and in Early New High German it even appears to have coalesced with the verb. Modern German *zu* is probably a bound prefix, although the spelling treats it as a non-bound element (*zu geben* "to give", but cf. the compound *wegzugeben* "to give away").

(iii) Loss of **paradigmatic variability** ("obligatorification") means that the choice among the members of the paradigm becomes constrained by grammatical rules, and the whole category becomes increasingly obligatory. While purpose clauses leave the speaker the option of choosing between *to*, *in order to* and *so that*, or of using a causal clause or something completely different, this is not possible in the case of many complement-taking verbs. Once the speaker has decided on a particular complement-taking verb, the choice of the infinitive is obligatory:

- (8) a. *Franz beabsichtigte, zu Sabina zu ziehen.*  
 'Franz intended to move in with Sabina'.  
 b. \**Franz beabsichtigte, dass er zu Sabina zöge.*  
 c. \**Franz beabsichtigte.*

(iv) The parameter of **syntagmatic variability** refers to the freedom with which an element can be shifted around in the syntagm. This cannot be shown in the infinitive, because the infinitive starts out as a grammatical construction (a PP) that already has a fixed order of constituents.

(v) Reduction of an item's **scope** means that it combines with items of an increasingly lower constituent structure level. For instance, while an adposition combines with an NP, a (more grammaticized) case affix combines with a noun. In Early New High German the scope of the prefix *zu* seems to have been wider than in modern German, cf.

- (9) *der gewonet auch die leute zu reissen und fressen* (Luther; Ez. 19,6)  
 'He has learned to tear apart and eat the people'

The fact that *zu* can be missing in the second conjunct (*fressen*) may be interpreted as reflecting the possibility of *zu* having scope over two conjoined infinitives. In modern German this is impossible because the scope of *zu* is limited to the immediately following verb.

(vi) The loss of **integrity** has a semantic and a phonological component. The loss of phonological integrity is generally called *erosion* and is a well-known property of grammaticization which is responsible for the fact that grammatical morphemes are as a rule shorter and (more generally) less salient phonologically than lexical stems. Like the loss of syntagmatic variability, phonological erosion is not easy to show in the case of the infinitive because the element *zi* is already fairly short and reduced at the beginning of this process. However, erosion of the infinitive preposition can be observed in English, where Old English *to* changed to [tə].<sup>2</sup>

The most interesting component of the development of the infinitive is the loss of semantic integrity, generally called *dese-manticization* or *semantic generalization*. The original purposive meaning is gradually weakened, just as in the case of the future. This can be represented as in Figure 2.

<sup>2</sup> The German form was [tse] in Middle High German (cf. example 11), which was later replaced by the full (non-clitic) form *zu* in Standard German. This replacement was not accompanied by semantic changes (there was no renewal of the complete form), but neither was it purely phonological. The details are unclear.



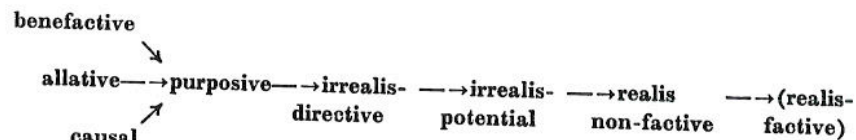


Figure 2. *Semantic grammaticization of the infinitive*

The grammaticization path represented in Figure 2 starts with the most concrete meanings: allative, benefactive and causal. These turn into the purposive meaning and later they develop into the various modalities of complement clauses.

I distinguish four modalities of complement clauses here, named *irrealis-directive*, *irrealis-potential*, *realis-non-factive*, and *realis-factive*. The semantics of complement clause modality is very complicated (cf. Givon 1980, Noonan 1985, Ransom 1986), but these distinctions will be sufficient for the present purposes.

(a) **Irrealis-directive** is the modality of complements to **manipulative** verbs like 'order', 'ask', 'cause', and to **desiderative** verbs like 'desire', 'want', 'prefer'.<sup>3</sup> The complement situation is presented as not realized, and its possible realization is expected for the future, so instead of *irrealis-directive* one could also say *irrealis-prospective*.

(b) **Irrealis-potential** is the modality of complements to **modal** predicates like 'be possible', 'be able', 'be necessary', 'have to', and to **evaluative** predicates like 'interesting', 'funny', 'regret', etc.<sup>4</sup> Here the situation is not realized either, but it is not expected to be realized sometime in the future; rather, it is presented as potentially occurring anytime.

(c) **Realis-non-factive** is the modality of complements to verbs of **thinking** (or 'propositional attitude') like 'think', 'believe', 'seem', and verbs of utterance, e.g. 'say', 'claim', 'report'. Here

<sup>3</sup> This corresponds roughly to what Ransom 1986 calls "Action Modality". But this term is too broad, because other complement types can have action meaning too. Ransom notes that the action is "Other-Directed" in manipulative verb complements, and "Self-Directed" in desiderative verbs. I think that "directedness" is the crucial property, hence my term "directive modality".

<sup>4</sup> Note that such predicates (esp. adjectives) can generally be used with two different modalities: irrealis-potential, as in *It is interesting to listen to her*, and realis-factive, as in *It is interesting that she arrived so early*.

the situation is presented as real, although the speaker is not committed to its truth.

(d) **Realis-factive** is the modality of complements to verbs of **cognition** like 'know', 'realize', 'find out', and of **evaluative** predicates (cf. note 4).

These modality meanings are increasingly different from the purposive meaning, showing a progressive weakening of the rather concrete original meaning. The irrealis-directive modality is still fairly close to the meaning of purpose. Both express non-realization and expected future time reference, but the purpose element is no longer directly present in the irrealis-directive modality, being expressed as part of the lexical meaning of the complement-taking verb. The irrealis-potential meaning represents a further degree of desemanticization in that it lacks the directive and prospective components. In the realis-non-factive modality the original irrealis component has been weakened to the non-factive meaning, and in the realis-factive modality even that last trace of the original purposive meaning is absent.

In the Old High German of Otfried the *zi*-infinitive was mostly used with irrealis-directive modality (if it was used in complement clauses at all). Example (5) above contains a manipulative complement-taking verb, and (10) is an example with a desiderative verb:

- (10) *sie gerotun al bi manne inan zi rinanne* (Otfried, II, 15, 7)  
 they desired all by man him to touch  
 'All of them sought to touch him'.

And if we look at the examples in (7), which show weakly grammaticized purposive forms, we see that they all have irrealis-directive modality when they occur in complement clauses.

As the purposive form develops and grammaticizes further, it can be used also in complement clauses with irrealis-potential modality. This use of the infinitive is found only in Middle High German, e.g.

- (11) a. *es zimet dem man ze lobene wol* (Tristan und Isolde, 13)  
 'It becomes the man well to praise'.  
 b. *da ist vil guot ze lebenne* (Behaghel 1924 : 343)  
 'There it is very good to live.'

(11a) is an example of an infinitive with *ze* as the complement of a modal verb, and (11b) exemplifies the use of a *ze*-infinitives with an evaluative adjective.



The use of *ze*-infinitives with realis-modality, as in verbs of thinking, is even later. In Middle High German, the most important verb of thinking, *dünken* 'think, seem', takes finite clausal complements, as in (12).

- (12) *in dūhte daz im al diu lant...wern bekant* (Parzival 590, 7)  
'He thought that all the lands were known to him.'

According to Paul 1920: §342, the verb *dünken* has been used with the infinitive only since approximately 1300 (i.e. late Middle High German).<sup>5</sup> Early New High German and in modern German the number of verbs that allow an infinitive to be used here has increased considerably, cf. (13) from Luther's bible (16th cent.):

- (13) *von dem wird genommen auch des er meint zu haben*  
'From him even that is taken which he thinks he has.'

Complement clauses to verbs of thinking and other realis complements have *indeterminate time reference* (Noonan 1985), i.e. they can be located temporally independently of the main predicate. It is therefore not surprising that now an infinitive arises that can express temporal precedence, the perfect infinitive. Example (14) is from Modern German.

- (14) *Franz bereut nicht, seine Familie verlassen zu haben.*  
'Franz does not regret having left his family.'

Such an infinitive that expresses temporal precedence is not needed as long as the infinitive is used only with irrealis modality which implies determinate time reference. According to Paul 1920: 98, this perfect infinitive did not exist in Middle High German.

In Modern German the *zu*-infinitive can also be combined with verbs of saying, e.g. (15), and possibly even with verbs of cognition that take realis-factive modality, as in (16).

- (15) *Mutter versicherte, früh zu Hause sein zu wollen.*  
'Mother said that she wanted to be home early.'

- (16) a. *?Sie stellte fest, in einer schwierigen Lage zu sein.*  
'She realized that she was in a difficult situation.'  
b. *\*Sie erfuhr, ihm nicht mehr helfen zu können.*  
'She learned that she could no longer help him.'\*

<sup>5</sup> Behaghel 1924: 318 suspects Latin influence here.

<sup>6</sup> The reason why verbs of utterance and cognition do not take *zu*-infinitives easily may be connected to the fact that infinitives do not have

Realis-factive modality is an extreme point in the gradual process of desemanticization of the original directional-purposive modality. It is maximally different from the original meaning, and the semantic grammaticization has hereby reached its final stage. Once the infinitive has reached this degree of desemanticization, one is easily led to conclude that it does not have any of its meaning left at all, having become the maximally unmarked form of the verb. But this degree of grammaticization is an extreme case, and the modality meaning is still clearly distinguishable in many of its complement uses.

##### 5. SOME PARALLELS AND CONSEQUENCES

There is an interesting parallel between the development of the infinitive and the development of nominal case markers. As is well known, markers of the grammatical cases (such as nominative, ergative, genitive) arise via the grammaticization of markers of less grammatical participant roles (such as instrument, benefactive, and various local relations, cf. Lehmann 1982: 107 - 112). A good example are accusative markers originating in dative markers that ultimately go back to direction markers, as in Spanish (*a*, from Latin *ad* 'to(ward)') or Hindi-Urdu (*-koo*, also used as a dative marker). The infinitive marker starts out as a purpose marker which also often goes back to a direction marker, and finally it is used to mark grammatical clausal arguments (i.e., complement clauses) in general. While the precise mechanisms vary (new accusative markers first appear on animate/definite NPs; infinitives gradually lose their specific modality), the parallelism is striking.

Another parallel comes from the grammaticization of main verbs. In the case of the infinitive, it is the marking of the subordinate predicate that undergoes the grammaticization process. More typically, however, it is the main verb that grammaticizes

their own subject, rather than to their inherent modality meaning; and realis complements are more independent than irrealis complements not only in that they have indeterminate time reference, but also in that the reference of their subject is more independent.







mantics of the infinitive, one important syntactic property follows from this original function.

According to Noonan's (1985 : 20) definition, an infinitive is

"a verb-like entity that does not bear syntactic relations to its notional subject; i.e. its subject does not take nominative case marking or condition verb agreement (where otherwise appropriate for subjects), nor are they marked in the associative (genitival) case. The notional subjects of infinitives are typically equi-deleted..."

This property of infinitives has been most prominent in formal syntactic studies (where the distribution of infinitives over semantic complement types has hardly been an issue), and many different theories have been proposed, often involving an abstract empty subject PRO. From the present point of view, the absence of an explicit subject in the infinitive can be shown to follow from its original purposive function. The reference of subject of purpose clauses is most of the time predictable (i.e. it is coreferential with the main clause subject) because people are egoistic and act for their own purposes. In the real world situations like (21a) are simply more usual than situations like (21b).

- (21) a. *Tom bought a new bike to impress his girlfriend.*  
 b. *Tom bought a new bike for the bike dealer to make more money.*

It is not surprising then that speakers exploit this predictability and conventionalize expressions in which coreference of the purpose clause subject is only implicit. The same predictability of the reference of the subordinate clause subject holds for most of the irrealis complement functions, but it is no longer true for the realis complement functions. Nevertheless, the restriction on the expression of a subject that was well-motivated for the original function remains in force because grammatical restrictions cannot simply be lifted.

#### 6. THE GRAMMATICIZATION OF FINITE PURPOSIVE FORMS

Infinitives arise when non-finite verb forms, i.e. mainly action nominals, are grammaticized in a purposive function. But there are also ways of expressing purpose with finite clauses. For instance, German has a specialized subjunctive *damit* 'so that, in order for...to',

e.g. in (22):

- (22) *Robert verdient Geld, damit seine Freundin studieren kann.*  
 Robert works for money in order for his girlfriend to be able to go to college.'

Greek presents an interesting example of the grammaticization of such finite purpose clauses.

From the earliest times, i.e. beginning with Mycenaean and Homeric texts, Ancient Greek has an infinitive, inherited from Proto-Indo-European, which exhibits a fairly high degree of formal and semantic grammaticization.<sup>10</sup> The infinitive suffixes have lost any connection to the case paradigm, and morphologically it is well-integrated into the verbal inflectional paradigm, distinguishing different voices and aspects (or even tenses: there is a future and a perfect infinitive). Semantically and syntactically the high degree of grammaticization results in a wide range of complement uses, including complement clauses with realis modality. Cf. (23) from Homer.

- (23) a. *Pantōs oukēti nōi diakriné-esthai oī-ō...* (Od. 20,180)  
 anyhow no.longer we(ACC) part(FUT)-INF.MIDDLE believe  
 1SG  
 'At any rate I believe that we will not be parted anymore.'  
 b. *Kai te mé phēsi mákh-ēi Tró-essi arég-ein* (Il. 1, 521)  
 and and me say-3SG battle-DAT Trojan-DAT.PL help-INF  
 'And she says that I am succouring the Trojans in battle.'

Given this high degree of grammaticization, it is not surprising that first in classical times and then again in hellenistic times the purposive function of the infinitive is reinforced. The reinforcing item in the classical language is *hōste* 'so that', the hellenistic reinforcing item is *toū* (the genitive form of the definite article, cf. Burguière 1960 : 139ff, for details). These forms are then also extended to uses in complement clauses with irrealis modality:

- (24) *hōste*+infinitive (classical Greek)  
 (purpose:) a. *metégnōs-an xummakhí-ān mē*  
 change.mind-3PL alliance-ACC not  
*poiēsa-sthai hōste tous*  
 make-INF so. that the

<sup>10</sup> Cf. Aalto 1953, Burguière 1960 and Kurzová 1968 for general information on the Ancient Greek infinitive and its historical development.



*autoùs ekhthr-òs* *kai phíl-ous*  
 same enemy-ACC.PL and friend-ACC.PL  
*nomíz-eîn* (Thucydides 1, 44 1)  
 consider-INF

'They changed their mind not to make an alliance  
 so as not to have the same enemies and friends.'

(complement:) b. *sunébē aut-oīs hóste... sítatòn*  
 happened they-DAT.PL so.that army  
*eksagag-eîn* (Thus. 4, 79, 3)  
 lead.out-INF

'It happened to them to march out with an army.'

(25) *toû*+infinitive (hellenistic Greek)

(purpose:) a. *Méll-ei Herōidēs zēt-eîn tò paidi-on*  
 want-3sg Herod seek-INF the child-ACC  
*toû apolé-sai aut-ó.*  
 in order. to destroy-INF it-ACC  
 'Herod will seek the young child to destroy  
 him.' (Matth. 2, 13)

(complement:) b. *Ēnágkaz-on aut-às toû*  
 force-3PL they-ACC.PL in.order. to  
*proísta-sthai* (Malalas 440, 21)  
 put.in.front-INF.MIDDLE  
 'They forced them to stand in front.'

These repeated reinforcements give the impression of unsuccessful attempts at "saving" the infinitive which eventually had to disappear in Greek (cf. Joseph 1983). The next round of grammaticization was not a reinforcement of some older form, but a complete renewal, using the purposive subjunctive *hína* 'in order for...to, damit'. Example (26a) shows a finite purpose clause introduced by *hína* from the classical author Xenophon. In (26b - c) (from the New Testament, hellenistic Greek) *hína* introduces finite irrealis complement clauses.

(26) *hína*+finite verb

(purpose:) a. *Ploî-a katékaus-en, hína mē*  
 ship-ACC.PL burn-3SG so.that not delete  
*Kūros diabēi* (Xen. An. 1, 4, 18)  
 Cyrus go.over

'He burned the ships in order for Cyrus not to get across.'

(irrealis-  
 -directive) b. *Pánt-a oûn hósa an thél-ēte hína*  
 all-PL thus which PT want-2PL so.that  
*poi-ēsín hum-in*  
 do-3PL you-DAT

*hoi ánthrop-oi* (Matthew 7, 12)

the human.being-PL

'Therefore all things whatsoever ye would that  
 men should do to you...'

(irrealis-  
 potential:) c. *Sumphér-ei gár soi hína*  
 be.useful-3SG for thou(DAT) so.that  
*apól-ētai hèn tōn mel-ōn sou.*  
 perish-356 one the limb-GEN.PL your  
 'For it is profitable for thee that one of thy mem-  
 bers should perish...' (Matthew 5, 29)

In Modern Greek this subjunctive exists in a more grammaticized form, phonologically reduced to *ná* (cf. 27) and extended to complement clauses with realis-non-factive modality, as in (28).

(27) a. *Mpor-ún ná érx-onte.*  
 be.able-3PL SUBJ come-3PL  
 'They can come.'

b. *Thél-un ná tó kán-un.*  
 want-3PL SUBJ it do-3PL  
 'They want to do it.'

(28) a. *Mpor-i ná érx-onte.*  
 be.possible-3SG SUBJ come-3PL  
 'They may come./It is possible that they will come.'

b. *Pistév-o ná ine tóra ektí.*  
 believe-1SG SUBJ be-3SG now there  
 'I believe that she is now there.'

With this high degree of grammaticization, it is not surprising that the next round of grammaticization has already occurred. The element *ná* is no longer sufficient to express a purpose clause in Modern Greek, it has to be reinforced by *yá*, a preposition meaning 'for'.

(29) *Pig-a stín adelfi mu yá ná tis tó p-ó.*  
 go-1SG.PAST to.the sister my for SUBJ her it say-1SG  
 'I went to my sister to tell her about it.'

The striking parallelism with German *um*, which reinforces the *zu*-infinitive, should be evident.



This example shows that the grammaticization from purposive meaning to realis modality complement functions (as shown in Figure 2 above) is an even more general phenomenon, of which the evolution of the infinitive is just a special case.

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