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Infinitival Complements in Some Old and Modern Germanic Languages

1. The purpose and organization of the paper

It is sometimes said that philologists and so-called traditional linguists know everything there is to know about linguistic data, especially historical and diachronic data, but do not know what to do with them, whereas so-called theoretical linguists have all sorts of ideas about what linguistic data should look like and what they might show about the nature of linguistic knowledge but cannot really verify their ideas since they do not know any real data.¹ Neither of these statements is strictly true, of course, but there is a grain of truth in both of them. What is true is that there is frequently too little communication between these two camps and hence the problems dealt with and discussed in each camp tend to look rather different. This is very obvious if one compares conferences frequented by members of one camp to conferences favored by the other, or if one looks at linguistic journals that reflect these different approaches. Despite this, I believe that the main goal of both camps is the same, namely to learn more about the nature of human language, how it has changed, how it can change, how it can be acquired, and so on. I also believe that each camp has something to offer the other and hence that it would be beneficial if there was more communication between them.

The main goal of this paper is therefore to try to contribute to increased communication between these two camps. I want to do this by bringing up a particular diachronic problem, namely the development of infinitival constructions in

¹ This is a rather extensively revised version of the paper I gave at the Ingerid Dal symposium in Oslo September 30, 1995. I benefited greatly from the comments of and conversations with participants in the symposium, including Werner Abraham, John Ole Askedal, Kurt Braunmüller, Karin Donhauser, Robert P. Ebert, John A. Hawkins, and Rosemarie Lühr. I am very thankful for those comments – and also for the opportunity to participate in the symposium. – Much of the work on the paper was done in 1995, while I was a visiting professor at Harvard and a visiting scholar at MIT. I thank my students and colleagues there for stimulating conversations which influenced this paper, especially the participants in the seminar on Topics in Historical Morphology and Syntax, which I co-taught with Andrea Calabrese at Harvard in the spring of 1995.

some Germanic languages, and then show how linguistic theory is needed to describe the facts presented and how different variants of linguistic (or syntactic) theory will shape the description and the account of the facts. Thus I hope to show on the one hand that without syntactic theory we cannot really say very much about the facts that we find, but on the other hand it is necessary to keep in mind that the synchronic facts we find in a given modern language will only show a very simplified picture of linguistic reality, and linguistic theory cannot be developed satisfactorily without consideration of a wide variety of facts, including diachronic ones.

The organization of the paper is as follows: In section 2 I will review traditional ideas about the origin of Germanic infinitives. In section 3 I will then give a brief overview of some well-known types of infinitives in modern Germanic languages, illustrating some cross-linguistic similarities and differences. In section 4 I will give a particular account of how infinitives in modern Germanic languages might differ, both within a given language and cross-linguistically, assuming a particular theoretical framework. In section 5 I will first use ideas and concepts developed in the synchronic description of syntactic structure of Germanic languages to formulate research questions that one could look for answers to in the study of the diachronic development of Germanic infinitives, and then give some examples of infinitival constructions from various historical stages of Germanic languages to illustrate what one might want to look for and how certain facts could be interpreted. Most of the data will be drawn from old and modern Scandinavian languages, but some examples from other Germanic languages will be included for the sake of comparison, especially English and German (both old and modern).

As should be clear from this description of the paper, it does not really present a solution to a given diachronic problem. It is rather meant as an illustration of how linguistic theory can provide historical syntacticians with tools to use in their trade – and how these tools will in turn shape the interpretation of the facts considered and hopefully shed new light on them. At the same time, it may become clear that the tools need to be sharpened.

2. A bit on the alleged origin of Germanic infinitives

It is standardly assumed that the infinitive in the Germanic languages is historically derived from a verbal noun (see e.g. Krahe 1957). As is well known, the infinitive had a special inflectional ending in the older Germanic languages, and it still does in most of them, English being an exception. This is illustrated in (1):

(1)	Gothic:	Old Norse:	Old English:	Old High German:
	baír-an	ber-a	ber-an	'bear, carry'

Mod. Icel.:	Mod. Engl.:	Mod. German:
ber-a	bear	lauf-en 'run'

The Indo-European origin of this inflectional ending is supposedly the Acc.Sg. ending of a neuter verbal noun (an *a*-stem, cf. e.g. Proto-Nordic *horn-a* 'horn'), originally **-om*, e.g. **bheronom* 'the carrying'.

Now if the infinitive was originally a verbal noun in Germanic, we would expect that it should have been possible to use prepositions with it, just as with any other noun. This seems indeed to have been the case. These prepositions included *to* in Old English, *te* in Old Saxon, and *za* or *zi* in Old High German. This, then, is supposed to be the origin of the so-called infinitival marker which must be used with certain infinitives in the modern Germanic languages (i.e. *to* in Modern English, *zu* in Modern German, and also – presumably from a different preposition – *att* in Modern Swedish, *að* in Modern Icelandic, etc.). As a further evidence for this claim, it is frequently pointed out that West Germanic frequently used a special Dative form of the verbal noun (i.e. of the "infinitive") after the preposition 'to', e.g. *tō/telza beranne* 'to carry' (cf. Dat.Sg. of neuter *ja*-stems like OHG *kunnie* 'gender').

Now it is fairly clear that the infinitive in the Modern Germanic languages is not a noun and the "infinitival marker" is not a preposition anymore, although that may be its historical origin. But if we want to trace the development of the infinitive and the infinitival marker in a given Germanic language, or try to determine what they might be at any given stage of our favorite Germanic language, it would obviously help if we knew what they are today. Here we would expect some help from the theoretical syntacticians. They should provide us with answers to questions like the following, for instance:

- (2) a. What is the syntactic structure of infinitival constructions? In what respects are they like finite clauses and in what respects are they like noun phrases, for instance? Can their structure vary cross-linguistically? How can one tell?
- b. What is the syntactic role of the so-called infinitival markers? In what respects are they like complementizers (subordinate conjunctions) and in what respects are they like prepositions? Can their syntactic role vary cross-linguistically? How can one tell?

Before presenting some possible answers to these questions, I will give a brief overview of types of infinitival constructions that are found in modern Germanic languages.

3. An overview of infinitival constructions in modern Germanic

The overview given here is not meant to be exhaustive but rather illustrative. Consequently there are many examples from some of the modern Germanic languages but few from others, partially reflecting my own familiarity with them.² Thus no particular attempt has been made to determine whether all of these types exist in all modern Germanic languages. Note, however, that since one of the theoretical questions to be discussed below is the status of the so-called infinitival marker, it is interesting to note when it is used and when it is not in the different types of constructions illustrated here.

- (3) (Bare) infinitives after modal verbs:
 a Sie muß kommen. (Ge)
 b Tað man vera so. (Fa)
 that may be so
- (4) The Acl ("accusativus cum infinitivo")/ECM ("exceptional case marking") constructions:
 a Jag anser honom vara dum. (Sw)
 I believe him be stupid
 'I believe him to be stupid.'
 b They made him eat the pickled whale blubber. (En)
 c Hann føldi hjartað banka. (Fa)
 he felt the heart beat
- (5) Control (Equi) infinitives:
 a Er versuchte zu lachen. (Ge)
 b Ik beveel hem (om) te gaan. (Du)
 I ordered him to go
 c Hann lofaði mér að fara. (Ic)
 he promised me to leave
- (6) "Arbitrary control" infinitival subjects:
 a To jog regularly is healthy. (En)
 b Det er morsomt at studere sprogvidenskab. (Da)
 it is fun to study linguistics

2 I will not cite sources for the examples given below, but they include Beukema/den Dikken (1989), Holmberg (1990), Johnson/Vikner (1994), Platzack (1986), van Gelderen (1993), Lockwood (1955), Davidsen/Mikkelsen (1993), Christensen (1984), and Tappe (1984). The abbreviations should be fairly transparent, except perhaps for Fa = Faroese. I will gloss non-English examples, except for German ones (this being a paper from a symposium where most of the papers were given in German).

- (7) Infinitival complements of "aspectual" verbs:
 a Det började att regna. (Sw)
 it began to rain
 b Hann hætti að drekka. (Ic)
 he stopped to drink
 'He stopped drinking.'
- (8) Raising infinitives:
 a John seems to be a genius. (En)
 b Han siges at tale svensk flydende. (Da)
 he is-said to speak Swedish fluently
- (9) Complements of adjectives:
 a I am ready to go. (En)
 b Ert tú liðug at skriva? (Fa)
 are you finished to write
 'Have you finished writing?'
- (10) Complements of nouns (infinitival relatives):
 a He gave me a knife to cut the bread with. (En)
 b Vi har funnet en bok á lese for barna. (No)
 we have found a book to read to the children
- (11) Adverbial (purpose) infinitive:
 a Er nennt dieses Beispiel, um alle zu überzeugen. (Ge)
 b Hann kom (til) að hjálpa okkur. (Ic)
 he came for to help us
 'He came to help us.'
- (12) *Wh*-infinitives:
 a I asked him what to do. (En)
 b They don't know what to look for. (En)

As can already be seen from this brief overview, some of the infinitival constructions illustrated require (or allow) the infinitival marker whereas others do not. This suggests that either the structural properties of a given type of infinitival constructions may vary cross-linguistically within Germanic, or else that the nature of the infinitival marker may not be the same in all Germanic languages.

As mentioned above, it is usually assumed that the Germanic infinitival markers are historically derived from prepositions. It is clear, however, that they cannot all be derived from the "same" preposition. In addition, it is well known that

some of them are homophonous with complementizers introducing finite clauses, a fact which has no doubt influenced certain synchronic analyses of them (cf. Thráinsson 1993 and references cited there). The following overview illustrates the presence/absence of the infinitival marker in some of the more important infinitival constructions in modern Germanic. In addition, it lists the typical finite clause complementizer in the languages, for the purpose of comparison with the infinitival markers. The labels used for types of infinitival complements in the following table correspond to the labels used in the illustration of the different types in the preceding examples (see also Thráinsson 1993 and footnote 2 here):

(13)	finite	control (cf. (5))	modal (cf. (3))	AcI (cf. (4))	raising (cf. (8))
English	that	to	0	to	to
German	daß	zu	0	0	zu
Dutch	dat	te	0	0	te
Danish	at	at	0	0	at
Norwegian	at	å	0	å	å
Swedish	att	att	0	(att)	(att)
Faroese	at	at	0	0	0
Icelandic	að	að	að/0	0	0

The parentheses in the table in (13) are meant to indicate optionality (although the presence of *att* in AcI complements and raising complements in Swedish is actually quite marked and apparently only possible dialectally (cf. Johnson/Vikner 1994). Obviously, the table does not say anything about the relative frequency or naturalness of the constructions in question. It does not show, for instance, that the AcI (Accusative with Infinitive/ECM) construction is very marginal in German, Dutch and Danish and only possible with perception verbs ('see', 'hear') or causative verbs ('let', 'make'), whereas it is possible with 'believe'-type verbs in some of the other languages.

The table in (13) reveals certain similarities and differences between the modern Germanic languages with respect to the use of the infinitival marker in infinitival constructions. The most striking similarity is that the infinitival marker is required for control complements in all these languages. – Second, modal verbs typically take bare infinitives in all the languages, except for Icelandic. As a matter of fact, most modal verbs in Icelandic take infinitives with the infinitival marker *að*, although a three common ones take bare infinitives (like modal verbs in the other Germanic languages typically do), namely *vilja* 'will, want', *munu* 'will', *skulu* 'shall'. – The picture is less clear-cut for the other infinitival constructions illustrated.

Based on the overview in (13), one can conclude the following:

- (14) a. Control complements probably have a special status among infinitival complements in Germanic.
 b. There is probably some cross-linguistic difference within Germanic with respect to the structure of infinitival complements, or the nature of the infinitival marker varies cross-linguistically within Germanic, or both.

With this in mind, we can now ask what some of the tools are that linguistic theory has offered linguists who need to deal with issues of the nature outlined in sections 2 and 3.

4. The structure of infinitival complements and the categorial status of the infinitival marker

4.1. Some basic concepts and previous proposals

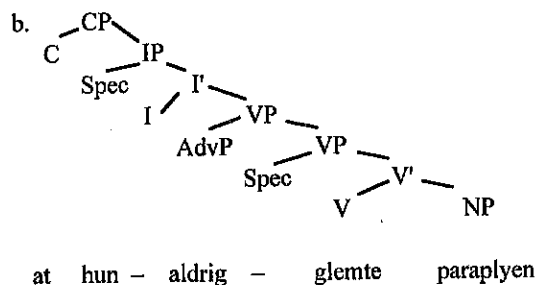
To be more specific, we can formulate the most important theoretical and descriptive issues involved in the study of infinitives as follows:

- (15) a. Which of the infinitival complements are "clausal" (i.e. have the basic structure of clauses rather than, say, verb phrases)?
 b. What is the syntactic structure ("clausal architecture") of the clausal infinitival complements (in case there are any)?
 c. What is the role (nature) of the infinitival marker?
 d. What is the nature of the (understood) subject of the infinitival complements (in case there is one)?

As the reader will note, the questions in (15) are not independent of each other. Thus if the answer to (15a) is that none of the infinitival complements have clause-like structures, then question (15b) disappears. Question (15d) is also partially related to these, but it will largely be ignored in this paper for reasons of space.

Furthermore, it is clear the answer to questions (15a,b) depends very much on the syntactic framework that one assumes. The questions do not have the same meaning for somebody who assumes, say, Diderichsen's sentence frame, illustrated in (16a), and somebody who assumes hierarchical phrase structure of the type illustrated in (16b) (both analyses are slightly simplified here, see e.g. Diderichsen 1946, Heltoft 1986: 52 and references cited there):

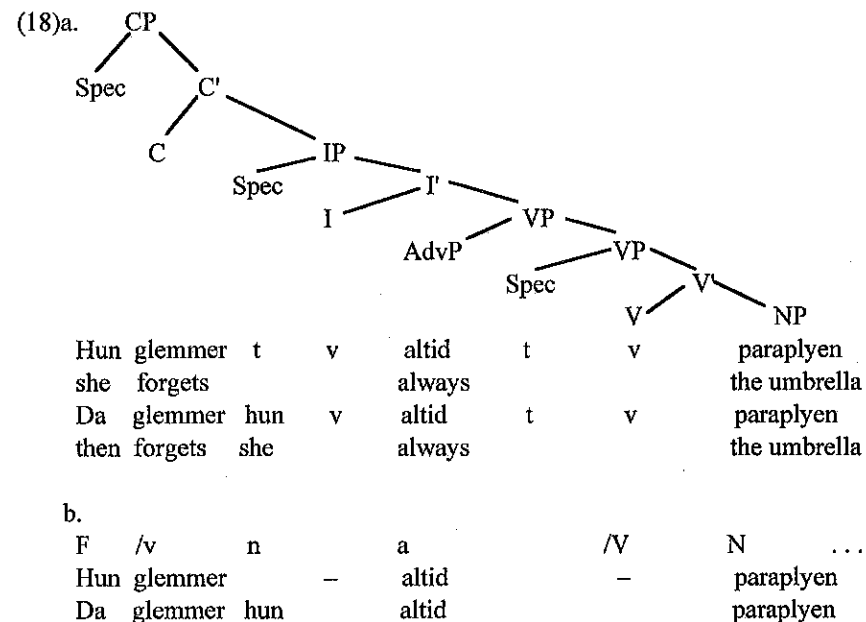
- (16) a. k /n a v /V N ...
 at hun aldrig glemte – parapylen (Da)
 that she never forgot – the umbrella



In addition, the diagram in (16b) would presumably be considered really simplified by most linguists who work within the broadly defined framework of "transformational generative grammar" as it does not take into account recent (nor even not-so-recent) developments in the theory. One basic concern in theoretical Germanic syntax in recent years has been the question how to account for the similarities and differences between the word order in main clauses and subordinate clauses that are found in many Germanic languages, including Danish. More specifically, the relative ordering of the (finite) verb and sentential adverbs like 'never' and 'always' for instance, is not the same in main clauses and subordinate clauses. Compare the following:

- (17) a. Jeg indrømmer [at hun altid glemmer paraplyen]. (Da)
 I admit that she always forgets the umbrella
 b. Hun glemmer altid paraplyen.
 she forgets always the umbrella

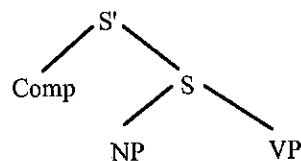
In transformational generative grammar (TGG) this is usually expressed by assuming that the verb "moves" to the left (and across the sentential adverb) in main clauses like (17b) whereas it does not in embedded clauses like the one in (17a). Many linguists also assume that in main clauses like (17b) the subject has also "moved" to the position that topics occupy otherwise (c.f. Vikner 1995a and references cited there), roughly corresponding to the "Vorfeld" in Diderichsen's frame. This can be represented as in (18a) (t stands for "trace" where the subject is supposed to have originated/moved through on its way to the topic position, and v similarly indicates the path of the verb). This can be compared to the Diderichsen-type analysis in (18b):



Despite some similarities between the TGG analysis and the Diderichsen analysis illustrated in (18), it should be clear that there are various differences. One important difference is that in the TGG analysis we have two different "clausal" constituents. The first (and "larger") one is the CP (the "complementizer phrase"), which is the embedded clause, and under the analysis sketched here also the main clause with the Vorfeld. The second (and smaller) one is the IP (the "inflection phrase"), which is everything which follows the complementizer in an embedded clause, roughly the structure of a main clause without a Vorfeld.

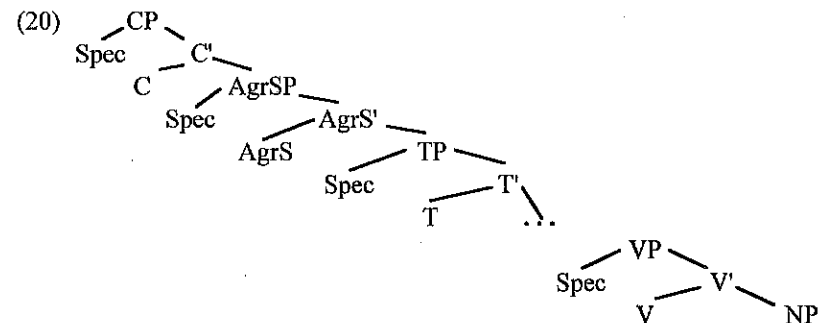
The CP/IP distinction just sketched is important in the present connection, since if some infinitival complements are clausal, they could in principle either be identified with CP (which is what a finite complement clause would be) or IP (which is smaller than a finite complement clause but yet has a full clausal structure with "slots" for the subject and the verb - but no Vorfeld). If one thinks of clause structure in these terms, it is clear that infinitival complements could be "clausal", i.e. have the basic structure of clauses, without being identical to finite embedded clauses that are introduced by a complementizer like *at* 'that'. In a slightly older concept of the phrase structure of clauses, the question comes down to whether infinitival complements could be S' or S (rather than just a VP) in the simplified diagram of (19):

(19)



Since the C-position in diagrams like (16b) (and the Comp position in (19)) are the positions where complementizers like *at* 'that' occur, it is even possible that some infinitives could be CP (or S' in a structure like (19)), with the infinitival marker in C, whereas those without an infinitival marker could be IP (or S in a structure like (19)). To argue for such a position, we would have to show that the infinitival marker does indeed have the properties of a complementizer (or at least that it does not have properties incompatible with such a proposal). But even if we could do that for one Germanic language, it is by no means given that the arguments would hold for the next Germanic language we looked at. The nature of the infinitival marker could vary from one Germanic language to another, and there is actually some evidence that it does (see e.g. Platzack 1986, Thráinsson 1993, Johnson/Vikner 1994, and references cited in these works).

As mentioned above, the abbreviation IP in diagrams like the ones in (16b) and (18a) stands for "Inflection Phrase" and the basic idea behind that name is that the head of this phrase (the position labelled I in the diagrams) is the canonical position for the inflected verb. (Binary branching structural diagrams like the one in (16b) are discussed in Chomsky 1986, for instance.) Now it is well known that in many languages the verbal inflection can be divided into Agreement inflection and Tense inflection, for instance. With this in mind, it has been suggested that this distinction is reflected in the syntactic structure in that we do not have a single IP (inflection phrase) but rather an AgrSP (subject-agreement phrase) and a TP (tense phrase), at least in some languages (see e.g. Pollock 1989, Iatridou 1990, Chomsky 1991, Bobaljik 1995, Thráinsson 1996 and references cited by these authors). This would give a basic clause structure like the one in (20) (assuming strict binary branching as in Chomsky 1986, for instance):



The phrases or projections above VP in this diagram (i.e. TP, AgrSP, CP) are generally referred to as "functional projections" (as opposed to "lexical projections" like VP and NP, for instance) and their role will be discussed in some detail in section 4.2 below. But it should be clear from the diagram in (20) that the possibilities for the categorial status of infinitival complements are even more numerous than before. More specifically, a "clausal" infinitive could in principle be CP (like a full-fledged finite complement) – or something smaller, namely an AgrSP or a TP. A non-clausal infinitival complement could then be a VP as before. And while C is still the canonical position for a complementizer, and thus an infinitival marker playing the role of a complementizer would occur there, it is conceivable that the infinitival marker could occur in other head positions in this diagram. It could for instance be a default (non-)agreement marker occurring under AgrS, since infinitival complements do after all differ from finite complements with respect to subject-verb agreement (in those languages that do show such agreement).

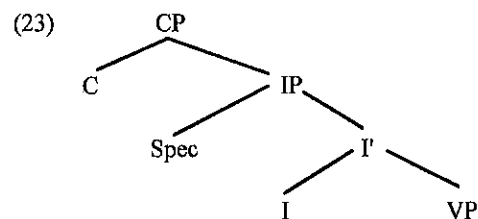
Given this overview, we can now give a brief summary of answers that have been given in recent linguistic literature to the questions in (15a,b,c) above. Consider the answers to the "clausality" issue first:

- (21)
- a. All infinitival complements are "clausal" (cf. Koster/May 1982).
 - b. No infinitival complements are "clausal" (cf. Lasnik/Fiengo 1974; Brame 1976; Bresnan 1978).
 - c. Some infinitival complements are "clausal", others not (cf. Thráinsson 1984).
 - d. Infinitivals may be "clausal" to different degrees: CPs/IPs/..., CPs/AgrSPs/TPs... (cf. Sigurðsson 1989, Sigurjónsdóttir 1989, Johnson/Vikner 1994, Thráinsson 1993, Beukema/den Dikken 1989).

Clearly no agreement here! Similarly, a number of different proposals have been made with respect to the categorial status of the infinitival marker:

- (22) a. It is a complementizer, and hence in C – at least in some languages (cf. Sigurjónsdóttir 1989, Johnson/Vikner 1994 and others – see also the overview in Thráinsson 1993 and references cited there).
- b. It is in I – or in AgrS and/or T (at least in some languages) (cf. van Gelderen 1993, Johnson/Vikner 1994 and references cited in these sources).
- c. It is a verb (cf. Pullum 1982).

Since many (or most) of the authors who have dealt with the categorial status of infinitival complements in Germanic languages in recent years assume a CP-IP... structure (cf. (16b) above), their proposals regarding the status of the infinitival marker, and the finite 'that'-complementizer, can be summarized as in the diagram in (23) (disregarding possible left/right differences in headedness of the phrases in question, cf. Zwart 1993a,b vs. Schwartz/Tomaselli 1990 with references). Note that "English 1", "English 2", etc. does not refer to different varieties of English but two (or more) different proposals:



English 1:	that	to	(Haegeman 1991)
English 2:	that (+f), to (-f)		(Lencho 1992)
German 1:	daß	zu	(Giusti 1991, Zwart 1993b)
German 2:	daß (+f), zu (-f)		(Wilder 1988)
Dutch:	dat	te	(Beukema/den Dikken 1989)
Danish:	at (+f)	at(-f)	(Platzack 1986)
Norwegian:	at	å	(Holmberg 1986)
Swedish 1:	att		(Platzack 1986)
Swedish 2:	att (+f)	att(-f)	(Vikner 1992)
Icelandic 1:	að		(Holmberg 1986)
Icelandic 2:	að (+f,-f)*	að (-f)**	(Sigurðsson 1989)

* The non-finite að here is supposed to introduce control complements.
 ** The non-finite að here is supposed to introduce modal complements.

A summary like the one in (23) is somewhat misleading, of course, since it may give the impression that "anything goes". That is not the case, of course, since all the authors listed have attempted to present explicit arguments for their analyses. But rather than going into these here, I will outline one more proposal in the next subsection, using a CP-AgrSP-TP... structure (cf. the diagram in (20) above) and assuming the so-called Minimalist Framework of Chomsky (1993). The main purpose of this exercise is to attempt to clarify what kinds of arguments one can present when arguing for the categorial status of infinitival complements, and what kinds of predictions a reasonably explicit analysis can make. In section 5 I will then test some aspects of this analysis and try to clarify some of the diachronic predictions it makes.

4.2. A theoretical working proposal

It has been argued that the multiplication of the so-called functional projections (CP, AgrSP, TP...) will lead to a theory which is too unconstrained and consequently rather meaningless (see e.g. Iatridou 1990, Thráinsson 1996). The danger is that linguists will simply propose a new functional projection whenever they feel the descriptive need to do so, e.g. when trying to describe variations in word order. This is thus one example of the common dilemma that linguists face: On the one hand the theory needs to be descriptively adequate, allowing for the description of as many observable facts as possible. On the other hand the theory needs to be explanatorily adequate, namely as restrictive and simple as possible so it can account for the fact that language is acquired and mastered relatively quickly and easily by children (see e.g. the discussion of this issue in Epstein, Thráinsson and Zwart 1996 and references cited there).

One way to constrain the proliferation of functional projections such as AgrSP, TP and the like is to take their labels seriously, as it were. This means that there should be some relationship between the existence of a subject agreement phrase (or projection) and morphosyntactic subject-verb agreement on the one hand, and tense phrase (or projection) and morphosyntactic tense distinctions. Now it is well known that agreement and tense morphology can only be separated in some languages but not others. This is illustrated with examples from modern Icelandic, English and Danish in (24):

(24)

	Icelandic		English		Danish	
	present	past	present	past	present	past
sg.1	reyk-i	reyk-t-i	smoke	smoke-d	svømme-r	svømme-de
- 2	reyk-ir	reyk-t-ir	smoke	smoke-d	svømme-r	svømme-de
- 3	reyk-ir	reyk-t-i	smoke-s	smoke-d	svømme-r	svømme-de
pl.1	reykj-um	reyk-t-um	smoke	smoke-d	svømme-r	svømme-de
- 2	reyk-ið	reyk-t-uð	smoke	smoke-d	svømme-r	svømme-de

- 3	reykj-a	reyk-t-u	smoke	smoke-d	svømme-r	svømme-de
	smoke-Agr	smoke-T-Agr	smoke-Agr	smoke-T	swim-Agr(?)	swim-T

As shown here, no English or Danish verb form offers evidence for separation of tense and agreement markers in the morphology whereas such evidence can be found in Icelandic verb forms. Now if special functional projections in the syntactic structure of languages are to be related to agreement and tense in some way, it seems natural to assume that this well-known morphological difference between languages (the difference described in the table in (24)) could be reflected in their syntactic structure. This hypothesis is presented in (25) (cf. Thráinsson 1996 – for similar ideas see Bobaljik 1995 and Bobaljik and Thráinsson to appear), together with a prediction about the diachronic development of this relationship between the morphology and syntax:

- (25)
- a. Some languages have TP and AgrSP as separate “functional projections”, others have an “unsplit” IP.
 - b. If there is clear morphological evidence for the separation of tense and agreement markers in a given language, then that is taken as evidence by the language learner for TP and AgrSP as separate functional projections in the syntax.
 - c. Languages that “lose” separate morphological markers for tense and agreement may still preserve TP and AgrSP as separate functional projections for some time if there is robust syntactic evidence for these projections in the language.

Now if one wants to give the hypothesis embedded in (25) some content, it is obviously necessary to say something more specific about the syntactic role of the projections TP, AgrSP and IP. I will try to do this very briefly here, assuming the basic framework of the Minimalist Program of Chomsky (1993).

A basic idea in the Minimalist Program is that lexical elements emerge from the lexicon fully inflected but are licensed in different structural positions in the syntax depending on the morphological features that they carry. Thus a verb will project its own verb phrase (VP) in the basic structure but it may have to “move” to a different position in the syntax in order to be licensed. The heads of the functional projections (CP, IP, AgrSP, TP...) are said to carry certain morphological (or morphosyntactic) features and the verb needs to “check” its morphological features against a functional head with matching features. Similarly, a noun will project its own noun phrase (NP) in the basic structure, but this NP will be licensed in different positions depending on the case features it has. If it has the case features appropriate for objects, it will be licensed in the syntactic position designated for objects, whereas if it has subject case features, it will be licensed in positions that are appropriate for subjects. Again, this licensing is described in terms of feature checking such that if a given functional head, say, carries the ap-

propriate case features for a subject, then a subject NP will be licensed in the specifier (Spec) position of this head (for details see Chomsky 1993, Epstein et al. 1996 and references cited there).

Having presented this brief sketch, we can now give some content to the hypothesis in (25) by outlining a specific proposal about the roles and properties of the functional projections TP, AgrSP, IP, and CP, keeping in mind that the properties (including the feature content) of syntactic projections are determined by the properties of their heads:

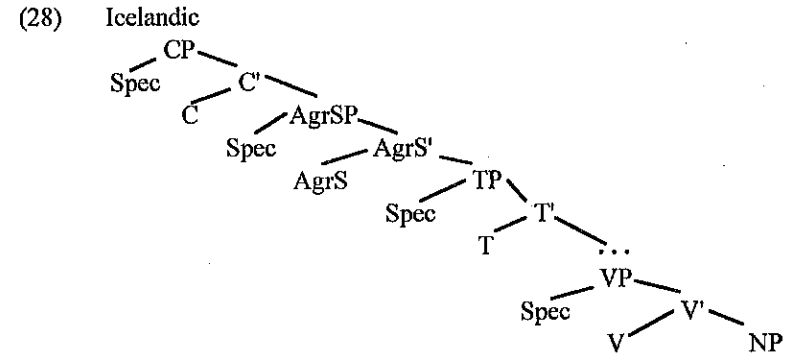
- (26)
- a. T has a tense feature associated with it and needs a verb to “check” this feature. It also has a case checking property and licenses a subject in its specifier position (SpecTP) and checks its case feature.
 - b. AgrS has agreement features associated with it and needs a verb to check these features. It also has a “definiteness” or specificity feature (a D-feature) associated with it (cf. Jonas 1996) and licenses definite NPs (or DPs) in SpecAgrSP (witness the fact that bare indefinite NPs are frequently odd in initial position in Icelandic: ??*þjófur braust inn í húsið* vs. *það braust þjófur inn í húsið* (lit. ‘thief broke into the house’ vs. ‘there broke thief into the house’).
 - c. I (= the head of IP) has the properties of T and AgrS combined in those languages that do not have TP and AgrSP as separate projections (cf. (25) above).
 - d. C (= the head of CP) is the complementizer position of (tensed) embedded clauses. It can license topicalized phrases and *wh*-phrases (question phrases) in SpecCP.

We are now in a position to propose some answers to the questions about the structural properties of infinitives stated in (15) above. The answers I want to propose here are outlined in (27) (cf. also Thráinsson 1993):

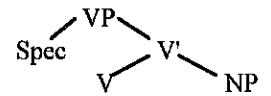
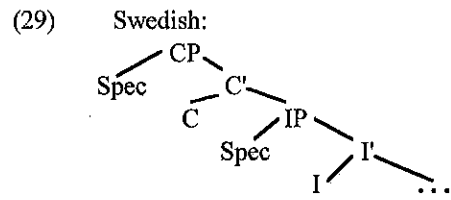
- (27)
- a. Some infinitival complements are clausal, but they are typically “smaller” or “simpler” than finite complements and do not contain all the functional projections found in finite complements.
 - b. Infinitival complements vary with respect to their clausal architecture, even the clausal ones, both within a given language and cross-linguistically.
 - c. Verbs may move to AgrS in finite complements, but they never do in infinitival complements since they have no agreement features to check. They may move to T in infinitival complements, however, to check (abstract) tense features.
 - d. AgrS – or I – is occupied by the infinitival marker in some infinitival complements, but that may vary cross-linguistically.

Before continuing, I would like to make two general points. First, it is not maintained that all infinitival complements are clausal. It is entirely possible that some are just VPs. But I want to maintain that infinitival complements can be clausal to different degrees, as it were. Thus some could be AgrSPs, others TPs, but I am not convinced that any of them should be analyzed as CPs. – Second, the claim that infinitival complements are typically “smaller” or “simpler” than finite complements is in accordance with the so-called principle of economy of representation: There should be no “useless” projections. Thus if there is no “need” for AgrSP or CP in the structure of a given complement type, it is not there.

Before presenting any data to support the basic ideas proposed here, I will try to illustrate how they could all be reflected in the structure of some complement types in languages with and without “split IP” (i.e. with and without separate TP and AgrSP projections). I will use examples from Modern Icelandic and Modern Swedish for this purpose (Modern Swedish being identical to Modern Danish with regard to the lack of subject-verb agreement). I will do this by comparing the structure of a typical finite complement to two basic types of infinitival complements in the two languages, namely control complements and AcI (Accusative with Infinitive) complements. I also include the so-called Transitive Expletive Construction, which can be found in Icelandic (and German and Dutch and some other Germanic languages) but not in English nor in Swedish or the other Mainland Scandinavian languages (see Vikner 1995a, Bobaljik/Jonas 1996, Jonas 1996):



Finite:	vissi	að	Jóni	las	t _i	t _j	t _i	t _j	bókina
	knew	that	J.	read					the book
Control:	lofaði	PRO _i að	t _i	lesa	t _i	t _j			bókina
	promised	to		read					the book
AcI:	taldi		Jóni		t _i	lesa			bókina
	believed		J.			read			the book
Trans. expl.	það	tók	einhver			t _i	t _j		bókina
	there	took	somebody						the book
									'Somebody took the book'



Finite:					
visste	att	Jens _i	t _i	läste	boken
knew	that	J.		read	the book
Control:					
lovade		PRO _i att	t _i	läsa	boken
promised		to		read	the book
AcI:					
ansåg		Jens _i	t _i	läsa	boken
believed		J.		read	the book

For reasons of space we cannot present detailed arguments for the claims embodied in the diagrams in (28) and (29). The reader is referred to Thráinsson (1993), Johnson/Vikner (1994) and Jonas (1996) for further discussions, although there are considerable differences between some of the claims made here and the claims made in these works. Here I would only like to emphasize the following claims:

- (30)
- All infinitival complements are smaller and simpler than finite complements.
 - Control complements are more like finite complements in structure than any other infinitival complements are. The so-called PRO-subject of control complements occurs in SpecAgrSP in split IP languages like Icelandic and checks the definiteness feature (D-feature) of AgrS (which is natural, since PRO is a pronominal element, hence definite – cf. Jonas 1996).
 - AcI complements are typically smaller (and thus simpler) than control complements, at least in split IP languages.
 - At least some infinitival markers are functional heads, just like finite complementizers, but that does not mean that they need to occur in C. Rather, they can for instance occur in AgrS (or I) and thus mark the non-agreement of the infinitival verb.

Given this, I will now briefly present some arguments for the clause structures presented in (28) and (29), both in general and with respect to infinitival complements in particular.

5. Some supporting evidence - and predicted diachronic developments

5.1. Evidence for “more positions” in split IP languages

First, it should be noted that if some languages have “split IP” (namely separate TP and AgrSP) whereas others do not, then that means that the languages with split IP have “more positions” available for their lexical heads and lexical arguments to move into. Thus Icelandic has SpecAgrSP and AgrS, SpecTP and T (four “positions”) where Swedish has SpecIP and I (two positions), if the structures in (28)-(29) are correct. In (28) it is assumed that Icelandic uses SpecAgrSP and SpecTP in the transitive expletive construction, with the overt expletive occurring in SpecAgrSP and the “logical” subject in SpecTP, as proposed by Jonas/Bobaljik (1993 – see also Thráinsson 1994, Jonas 1996). But if Swedish (and the other Mainland Scandinavian languages) only has SpecIP, then it does not have these “two subject positions” available for the overt expletive and the logical subject. Consequently, it is predicted that the Mainland Scandinavian languages should not allow Transitive Expletive Constructions, if Jonas/Bobaljik (1993) and others are right in claiming that “two subject positions” are needed in such a construction. And this prediction is actually borne out. It is also interesting to note in this connection that the other “Insular Scandinavian” language, Faroese, allows Transitive Expletives, at least dialectally (cf. Jonas 1996). This is illustrated in (31):

(31)

a.	pað	höfðu	nokkrar mýs	étið	allan ostinn	(Ic)
b.	Tað	høvdu	nakrar mýs	etið	allan osten	(Fa)
c.	*Det	hade	några möss	ätit	hela osten	(Sw)
d.	*Der	hadde	nogle mus	spist	hele osten	(Da)
	there	had	some mice	eaten	the whole cheese	

Note in this connection that Faroese has a less rich verbal morphology than Icelandic but richer than Mainland Scandinavian (cf. Lockwood 1955, Rohrbacher 1994, Vikner 1995b). Typical paradigms are shown in (32) (see Petersen/Jacobsen/Hansen/Thráinsson 1997):

(32)

	present	past	present	past	present	past
sg.1	kall-i	kalla-ð-i	selj-i	sel-d-i	smyrj-i	smur-d-i
- 2	kalla-r	kalla-ð-i	sel-ur	sel-d-i	smyr-t	smur-d-i

- 3	kalla-r	kalla-ð-i	sel-u-r	sel-d-i	smyr	smur-d-i
pl.1,2,3	kall-a	kalla-ð-u	selj-a	sel-d-u	smyrj-a	smur-d-u
	call-Agr	call-T-Agr	sell-Agr	sell-T-Agr	smear-Agr	smear-T-Agr

It should be pointed out here that even though it is possible to interpret the past tense forms of Faroese verbs as having separate tense and agreement markers, this interpretation is not as unambiguous as it is in Icelandic (cf. (24) above). This is so because the agreement distinctions are much weaker in Faroese than in Icelandic, as a comparison of the paradigms in (32) and (24) will reveal. Consequently some speakers might interpret -ði and -ðu (or -di and -du, -ti and -tu) as alternative indivisible past tense endings and hence not get any clues for the split IP structure from the morphology (cf. (25) above). In the light of this, the dialectal variation observed by Jonas (1996) with respect to the "two subject positions" is not so surprising (see also Bobaljik/Thráinsson, to appear).

Another piece of evidence supporting the claim that Icelandic and Swedish have different "subject positions" comes from the following contrast between of AcI (Accusative with Infinitive) complements in these languages:

- (33) a. *Ég tel það vera mýs í vasanum. (Ic)
 I believe there be mice in the pocket
 b. Ég tel vera mýs í vasanum.
 I believe be mice in the pocket
- (34) a. Jag anser det vara möss i fickan. (Sw)
 I believe there be mice in the pocket
 b. *Jag anser vara möss i fickan.
 I believe be mice in the pocket

As the examples in (33) and (34) show, Icelandic does not allow the overt expletive (or dummy) subject *það* in the AcI construction when the logical subject follows the verb whereas Swedish requires the expletive *det* in the corresponding construction.

In (28) and (29) it was maintained that the relevant subject position here is SpecTP in Icelandic but SpecIP in Swedish. Given this, and the account of the properties of the various functional heads proposed in (26), the following explanation can be offered for the contrast between (33) and (34):

- (35) a. The expletive *það* in Icelandic is inserted in SpecAgrSP as a "dummy" subject to check the D-feature (definiteness, specificity) of AgrS (cf. Jonas 1996). Since AcI complements are TPs (and not AgrSPs or any thing larger) the expletive "has no business" in Icelandic AcI complements – and thus it cannot be inserted for reasons of Econo-

my (see Chomsky 1991 for discussions of the concept of Economy of Derivation).

- b. The expletive *det* in Swedish (and Norwegian – and *der* in Danish) is inserted in SpecIP as a "dummy" subject to check the D-feature of I. Since AcI complements are presumably IPs in these languages (they cannot be TPs as in Icelandic since these languages do not have a separate TP projection), the expletive can be inserted in Swedish AcI complements and needs to be for checking purposes.

Thus we see that the fairly abstract properties proposed for the heads AgrS, T and I in (26) above receive unexpected support from subtle contrasts between infinitival constructions in Icelandic and Swedish.

Finally, it should be pointed out that even though it has been argued here that the Mainland Scandinavian languages have the same basic clause structure (with an unsplit IP rather than separate TP and AgrSP), this does not necessarily mean that the structure of infinitival complements in these languages will be the same nor that the categorical status of the infinitival marker will be. There is in fact some evidence that it is not (cf. e.g. Platzack 1986, Johnson/Vikner 1994). Recall that in (29) it was claimed that the infinitival marker in Swedish control infinitives (after verbs like *lova* 'promise' for instance) occurs in the functional head position labelled I, namely above the VP. Now if we make the common assumption that sentential adverbs, including the negation, are adjoined to VP (see e.g. (16b) or (18a) above), then we might expect such elements to be able to occur between the infinitival marker and the infinitival verb in Swedish control infinitives. This is actually the case, as shown in (36a), but as shown in (36b), this is not the place where the negation occurs in corresponding infinitives in Danish:

- (36) a. Jens lovade aldrig att inte dricka mjölken. (Sw)
 J. promised never to not drink the milk
 b. Jens lovede aldrig ikke at drikke mælken. (Da)
 J. promised never not to drink the milk

This suggests that control infinitives in Danish may be "smaller" than in Swedish, and this has in fact been claimed (see e.g. Platzack 1986, Johnson/Vikner 1994). But despite the rather complex syntactic structures assumed in this paper, it is not entirely clear what to do with the Danish infinitival marker *at*. Given a basic structure like (29), it would seem to belong inside the VP, perhaps as some sort of a preverbal clitic (see e.g. Johnson/Vikner 1994). Interestingly, however, it seems that the Norwegian infinitival marker *å* can either occur in I, as its Swedish counterpart, or further down as Danish infinitival *at*:

- (37) a. Jens lovet aldri å ikke drikke melken. (No)
 b. Jens lovet aldri ikke å drikke melken.

The diachronic development of these different construction types might shed some light on their nature and their relation to other syntactic facts in the Scandinavian languages.

5.2. Some diachronic considerations

Let us now return to the historical and diachronic aspect of infinitival constructions. As stated in section 2, it is generally believed that Germanic infinitives have developed from verbal nouns and that (at least some of) the infinitival markers were originally prepositions, constituting prepositional phrases with the verbal noun (the "infinitive"). But it is clear that very few, if any, of the numerous infinitival constructions in the Modern Germanic languages have anything in common with nouns in prepositional phrases. The diachronic question is, then, how the change took place. How did we, for instance, get from a PP (prepositional phrase) to the TPs, AgrSPs and IPs discussed in connection with Scandinavian infinitival constructions above? Limitations of space do not allow any kind of detailed study of infinitives in older Germanic languages here. Instead, I will just make a few suggestions as to what one might look for when attempting to study Germanic infinitives from a diachronic point of view and what certain kinds of data might suggest. First, note that while the infinitival marker is a preposition, we do not expect to find any material intervening between it and the following infinitive (the verbal noun) as such interpolations are usually not allowed in prepositional phrases. Thus a "split infinitive" (i.e. an infinitival construction with a negation or an adverb intervening between the infinitival marker and the infinitive itself) could indicate reinterpretation of the infinitival marker as some sort of functional head. Interestingly enough, such examples have been reported for Gothic (Peter 1996), i.e. 4th century, although the oldest English examples are said to be from early Middle English (van Gelderen 1993: 41), i.e. 13th-14th century, and the "real" split infinitives (cf. (38d)) do not occur until late 14th century, according to van Gelderen (loc. cit.):

- (38) a. **du** in aljana **briggan** ins (Go)
 to in jealousy bring them
 b. fo[r] **to** londes **seche** (ME)
 for to countries seek
 c. for **to** hine **finde** (ME)
 for to him find
 d. Y say to zou, **to** nat swere on al manere (ME)
 I say to you to not curse in all ways

Recall that in some older Germanic languages a special case-inflected form of the verbal noun was used after the preposition that later developed into the infinitival marker. Interestingly, I do not know of any examples of "split infinitives" where the "infinitive" is this case-inflected form. This is what we would expect if the loss of the prepositional properties of the infinitival marker were a prerequisite for its reinterpretation as a functional head of some sort, and such a reinterpretation was a prerequisite for splitting the infinitives.

It should be emphasized, however, that the introduction of split infinitives does not necessarily tell us anything about changes in basic clause structure in the languages in question. The reason I state this explicitly is that van Gelderen (1993) has argued that the introduction of split infinitives can be used to date the introduction of functional projections like TP. More specifically, she wants to argue that Old English did not have a TP projection and the introduction of TP is a Middle English innovation in English. It should be clear, however, that under the assumptions listed in (25) above, children acquiring Old English would have had ample morphological evidence for assuming split IP (i.e. separate TP and AgrSP projections) since Old English had a relatively rich tense and agreement morphology, as illustrated in (39) (cf. Quirk/Wrenn 1957: 43):

(39)

	present	past
Sg. 1	dēm-e	dēm-d-e
- 2	dēm-st	dēm-d-est
- 3	dēm-ð	dēm-d-e
Pl. 1,2,3	dēm-að	dēm-d-on
	judge-Agr	judge-T-Agr

Thus we cannot accept van Gelderen's claim that the emergence of split infinitives in the Middle English period can be used to date the introduction of TP in the history of English. But she may very well be right in claiming that Middle English had a TP projection, a claim also supported by the fact that Middle English seems to have had Transitive Expletives (cf. Jonas 1996), which require SpecTP under the analysis assumed here (cf. (28) above).

As noted above, the presence of an infinitival marker in control infinitives is one of the most consistent properties of Germanic infinitives and this has frequently been taken as an indication that these infinitives are consistently more clause-like than others (especially by those who want to see the infinitival marker as some sort of a complementizer). But if infinitival complements derived from verbal nouns and prepositional phrases through some sort of reinterpretation, and if there are several possibilities with respect to the categorization of infinitival complements, as argued here (i.e. at least VP, TP, AgrSP, IP...), it is not surprising to find some vacillation in the presence/absence of the infinitival marker in

linguists who read this that a lot of theoretically challenging work remains to be done in diachronic syntax.

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