Modality in Germanic Languages

Historical and Comparative Perspectives

edited by

Toril Swan
Olaf Jansen Westvik

Trends in Linguistics
Studies and Monographs 99

Editor

Werner Winter

Mouton de Gruyter
Berlin · New York

Modality in Germanic Languages

Historical and
Comparative Perspectives

edited by

Toril Swan
Olaf Jansen Westvik

Preface

The present volume contains papers from the Xth International Tromsø Symposium on Linguistics, which took place on August 21st−August 25th 1993. The Xth symposium was the second in this series to be devoted exclusively to questions of Germanic linguistics, the first being the VIIth International Tromsø Symposium on Linguistics, which was held in 1991.[1]

The organizers chose the topic of the conference − *Modality in Germanic Languages: Historical and Comparative Perspectives* − mainly for the reason that this area of grammar would lend itself particularly well to comparative study both synchronically and diachronically. Central elements of the modal systems of the different Germanic languages are historically identical and in the various developments that have taken place over the centuries there are both characteristic difference and similarities. On the other hand it is also true that in spite of the extensive similarities of the modal systems of the Germanic languages, work in this area more often than not is carried out on an exclusively one-language basis, in our opinion much to the detriment both of theory and description.

Modality has become a much-discussed concept in recent years; indeed, the very notion of modality has been expanded and is now used with a wide and inclusive meaning as well as more restrictedly, i.e. to include discourse modality, subjectivity and all types of speaker-orientation, etc. − or − as earlier − referring only to modal verb/auxiliary meaning. Whether the term is used in a narrow or in a wider sense, however, modality is a concept which necessarily involves both syntax and semantics; it "faces both ways − Janus-like", as Jespersen suggested in his *Philosophy of Grammar*. Indeed, in recent years the pragmatics aspects of modality have also been investigated and have proved important.

Given the relative paucity of comparative work in the area of modality it was not thought advisable that those who were invited to read a paper should be obliged to discuss their problems from an explicitly comparative angle. Rather, the conference was intended to provide a forum in which it would be possible for the participants to acquaint themselves with work carried out in areas adjacent to their own. It was thought that this might contribute to developing an awareness of and fostering an interest in problems of an historical and comparative nature. Not all of

those who participated in the symposium read a paper, and of those who did, not all were later able to submit a written version for publication. On the other hand, one of the participants has submitted a paper which was not read at the conference, but which has been included in the present book.

The papers presented at the symposium thus throw light on a great many aspects of the state and development of modality and subjectivity in one or more Germanic languages; as will be seen, they represent a wide interpretation of the term modality (indeed, the modal auxiliaries are not the main topic at all). While the German language, and to some extent English, seems to have received the lion's share of attention, many of the other Germanic languages are represented as well. Thus Traugott and Aijmer analyze English verbs that have or are developing subjective meanings or functions. Rosengren, Ormelius, and Önnerfors deal mainly with German — Rosengren with exclamations. Ormelius with the modal particle *schon*, and Önnerfors with the modal use of V1 clauses. Vasko and Fretheim investigate the Norwegian modal particles *altså* and *nemlig*. Finally, Palmer's and Leirbukt's papers include data from Scandinavian as well as from English and German.

The editors would like to express their gratitude to the symposium participants, who made the conference memorable, and whose contributions have become the present volume. We also are grateful for the contribution made by NFR (the Norwegian Research Council) whose grants helped finance the symposium and helped make possible the publication of this volume.

Toril Swan   Olaf J. Westvik

Note

Contents

I think – an English modal particle[1]

Karin Aijmer

1. Introduction

In 1983, Perkins described research on modality as "very similar to trying to move in an overcrowded room without treading on anyone else's feet" (1983: 4). It may, however, still be possible to find new avenues for studying modality. Contrasting modal devices in two languages may, for example, serve as a "window" on modality, providing insights which are difficult to get by other means.

While it would no doubt be interesting to study all the ways in which epistemic modality can be expressed in two or more languages (cf. Stubbs 1986), this would be impractical since it would presuppose that the functional domains of epistemic modality have already been described.

An alternative approach is to shift the comparison to a single modal element. What kindled my interest in *I think*[2] was that the phrase seemed to function in the same way as modal particles in languages like German or Swedish (cf. Fillmore 1984, Doherty 1978: 176). In the text-based contrastive project which had recently started at Lund where my task was to study epistemic modality, the contrastive analysis of translation texts gave ample evidence of such a connection.

Spoken language is rich in recurrent phrases such as *I think* which are sensitive to speakers' communicative needs. I argue that *I think* has "gone one step further" and developed into a discourse marker or modal particle which is syntactically a speech-act adverbial. In order to explain such an incomplete discourse marker it will be shown that we need a scale of pragmaticalization where one of the end-points is a pragmatic element or "modal particle".

The present work consists of two studies dealing with *I think* which are closely related. In the first study I analyse the subtypes of *I think* on a scale of pragmaticalization and discuss their syntactic, semantic, prosodic, and functional properties. The material for this study comes from the London-Lund Corpus of Spoken English (cf. Greenbaum–Svartvik 1990).[3]

The second study is a follow-up investigation testing the hypotheses in the first part by establishing correspondences between *I think* and related epistemic modal elements in English, on the one hand, and modal particles in Swedish, on the other, in a corpus of authentic translations.

2. Modality, grammaticalization, and pragmaticalization

Historically, modal auxiliaries are derived from lexical (preterite-present) verbs by means of a process of grammaticalization, which involves syntactic changes but has semantic-pragmatic correlates (cf. Hopper–Traugott 1993). According to Thompson–Mulac (1991), grammaticalization can also cause a change of *I think* from a main clause construction into an epistemic adverb. Thompson–Mulac's study has opened up a new area of research in which combinations of words not only become lexicalized but can go "all the way" to grammar. The framework of analysis in this work is different mainly in that I find it fruitful to make a distinction between grammaticalization and pragmaticalization[4] (see Figure 1.).

Lexical form
- Grammatical construction   "Grammaticalization"
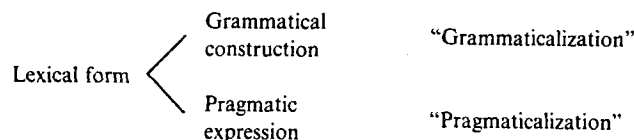- Pragmatic expression   "Pragmaticalization"

Figure 1: Grammaticalization and pragmaticalization

Grammaticalization is concerned with the derivation of grammatical forms and constructions (mood, aspect, tense, etc.) from words and lexicalized structures. An example is (*be*) *going to* as a marker of future tense, English *let's*, and agreement markers in French (Hopper–Traugott 1993).

Discourse markers such as *you know*, *you see*, etc., are typically "pragmaticalized" since they involve the speaker's attitude to the hearer. I shall argue that strings such as *I think* which can be loosely attached to the sentence as in *Bill is at home I think*, are other good examples of pragmaticalization or of emergent pragmatic constructions (cf. Hopper 1991: 19 and Section 2.1). Pragmaticalization can be described pragmatically, syntactically, semantically, and prosodically.

Pragmaticalization of meaning has in the past been associated with "bleaching" or loss of meaning. In recent work (Hopper–Traugott 1993: 87–88, Romaine – Lange 1991: 266), it has however been claimed that the beginning of grammaticalization is associated with the development of new pragmatic meanings, strengthening of conversational implicatures, etc. This is in line with the hypotheses in this work where I am interested in comparing the pragmatic processes involved in the development of *I think* as a modal particle and the pragmaticalization of the new meanings of modal particles in Swedish.

I think permits, for example, extensions of meaning involving the speaker's attitudes to the hearer or to the message. With the modal particles in Swedish, the conventionalization of pragmatic meanings is even more clear. The modal particles in Swedish are short deaccented words with modal meanings (e.g., *väl, nog, visst*). They are not usually discussed in connection with grammaticalization, probably because the development from a lexical item to a pragmatical expression is so difficult to trace. (The main part of the discussion of particles and other modal elements in Swedish takes place in Section 4.)

Pragmaticalized elements can also be characterized semantically. If we differentiate between semantics and pragmatics in truth-conditional terms, as is common, we can stipulate that elements which cannot be analysed in terms of truth are pragmatic or pragmaticalized. A comparison can be made between the *if*-clauses in the following paired sentences:

(1)   *If it rains, I will take my umbrella.*

(2)   *He is not very nice if I may say so.*

In (1) the *if*-clause expresses a condition which must be fulfilled in order for the proposition expressed in the main clause to be true and the meaning of the whole construction must be described in truth-conditional terms. On the other hand, *if I may say so* in (2) is a pragmatic element expressing the speaker's reservation.

The truth-conditional criterion is of overriding importance for distinguishing between grammatical(ized) and pragmatic(alized) elements. Other criteria are non-sufficient since they either pick out a sub-group of pragmatic(alized) expressions or characterize a too large class of adverbials.

For example, pragmatic elements tend to be optional in the sentence while grammaticalization results in forms which are an obligatory part of the grammatical "core" such as tense and mood. There are, however, borderline cases such as intensifiers like *very* which are optional but have a grammatical rather than a pragmatic function.

A difficult question is how pragmatic(alized) elements should be described grammatically. One suggestion is that they are "speech-act adverbials" (Andersson 1976: 43), a category which is defined pragmatically and syntactically. Syntactically, speech-act adverbials are "Chomsky-adjoined" to the right (or the left) of the utterance (see Figure 2.):
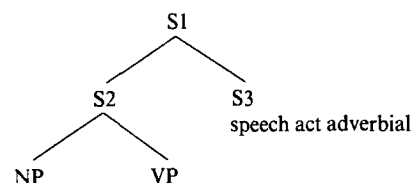
Figure 2: The constituent structure of sentences containing "speech-act adverbials" (adapted from Andersson 1976: 29)

Elements which can be placed in the extra speech-act adverbial slot in Figure 2 are expletives and epithets (*you bastard, oh God*) and a variety of adverbial expressions (*frankly speaking, you know, I think, to tell you the truth, if I may say so,* etc.). A major class of speech-act adverbials consists of short modal particles in Swedish (e. g., *väl* 'I suppose', *va* 'isn't he'), which are however sentence-internal (cf. Section 4).

Syntactic detachability and mobility are a characteristic feature of a larger class of adverbials. Yet another formal test is whether the adverbial can be the focus of a cleft or pseudo-cleft construction or of an alternative *or*-question or a negative sentence. Some adverbials are easily clefted (*It was on Thursday that he came*) and are found in alternative questions (*Did he come on Thursday or Friday?*). On the other hand, there are adverbials which are ungrammatical as the focus of a cleft construction (**It is frankly speaking that he is an idiot*) (cf. Quirk et al. 1985, Andersson 1976). Again, this criterion only tells us that speech-act adverbials are sentence adverbials.

A test which however seems to distinguish grammatically between speech-act adverbials and other adverbials involves word-order rules in Swedish and Norwegian (Swan 1991). Since these languages are verb-second languages, an initial sentence adverbial should cause subject-verb inversion. Now this rule is only optional for initial speech-act adverbials as in (3) although it is obligatory for other sentence adverbials (cf. 4). Compare the a and b sentences in (3) and (4):

(3)   a. *Ärligt   talat,   han är inte vidare trevlig.*
          frankly spoken he is not very   nice

       b. *Ärligt   talat   är han inte vidare trevlig*
          frankly spoken is he not' very   nice
          'Frankly, he is not very nice'

(4)   a. **Förmodligen han är inte vidare trevlig.*
          probably   he is not very nice

       b. *Förmodligen är han inte vidare trevlig.*
          probably   is he not very nice
          'Probably he is not very nice'

(5)   a. *Om jag så får   sega, han är inte vidare trevlig.*
          if   I so may say he is not very   nice

       b. *Om jag så får   sega är han inte vidare trevlig.*
          if   I so may say is he not very   nice
          'If I may say so he is not very nice'

(6)   a. **Om det regnar, jag tar   mitt paraply.*
          if   it rains   I   take my   umbrella

       b. *Om det regnar tar   jag mitt paraply.*
          if   it rains take I   my umbrella
          'If it rains I'll take my umbrella'

Interestingly, there is some proof that speech-act adverbials can be characterized prosodically. To begin with, they typically occupy a separate tone unit after the main message (the "afterthought function", cf. Chafe 1988):

(7)   C [\m]# —
          it's bound to come Vout though#.
          I thlink# —
          a *do you think so*
          C [\m]#.
          (2.7 162—166)

An adverbial may fall into different adverbial classes depending on its prosody. According to Allerton — Cruttenden (1974: 21), *truthfully* can occur as in (8 a) with a fall tone to assert the seriousness or truthfulness of what John did. If, however, the adverbial expresses the speaker's attitude to the proposition, it has a fall-rise tone, and *truthfully* occupies a separate tone unit. In the synonymous phrase *to tell you the truth* (example 8 b), only a fall-rise tone is found according to Allerton — Cruttenden:

(8)   a. *tr\uthfully he did it*
       b. *to tell you the tr\Vuth# only Bill was at home*

Grammaticalization is a broad and fuzzy concept which enables us to describe any kind of syntactic or semantic/pragmatic change or variation. By distinguishing between grammaticalization and pragmaticalization as I have done here, it is, however, possible to ask to what extent the principles and processes giving rise to grammatical markers such as conjunctions, morphological markers of tense, aspect, etc., are the same as those giving rise to pragmatic discourse markers such as *I think*. There are many similarities between the processes involved in pragmaticalization and grammaticalization. I shall discuss four processes which are typically involved in both grammaticalization and pragmaticalization: specialization, layering, divergence, and renewal (cf. Hopper — Traugott 1993: 113).

Specialization refers to the fact that lexical forms or structures become more frequent or the only choice in some text type or in the whole of language. Several examples are given in Palander-Collin's forthcoming study of how *methinks* develops into an epistemic qualifier in Middle English. She shows, for example, that in Old English the impersonal *think* shifts from an all-around opinion verb occurring with different kinds of subjects to a first person singular verb when one compares the periods 1350—1420 and 1420—1500.

We speak of layering when new devices or techniques emerge to serve a function, but old ones are not discarded. An obvious case is when *I think* coexists with modal adverbs (*in my opinion*, *probably*) and auxiliaries (*must*) in the functional domain of epistemic modality.

Divergence indicates that when a lexical form undergoes grammaticalization, the original lexical form may remain as an autonomous lexical item (Hopper — Traugott 1993: 116). The fact that *think* is used both in *I think* as a pragmatic expression and as a normal verb with other subjects, e. g., *John thinks (that)* is an example.

By renewal, new forms are created with the same meaning as the grammaticalized or pragmaticalized form. There is, for example, an almost infinite number of modal elements with the meaning 'I believe' emerging as a response to the speaker's expressive needs. The syntactic structure is the same as in *I think* but the predicate is different (cf. *I think, I guess, it is obvious that*, etc.).

2.1. The cline of pragmaticalization of I think

In my discussion, I have so far focussed on pragmaticalized expressions and "speech-act adverbials". However, *I think* is not a pure "pragmatic

expression" (Erman 1987) or a "D-item" (Stenström 1990) like *you know* or *you see*. The reason is the structural and formal flexibility of *I think* which causes it to straddle grammar and discourse. *I think* can occur in different positions in the utterance (cf. *I think that Bill is at home* and *Bill is at home, I think*). In comparison with *you know*, the phrase is flexible with regard to tense, aspect, and modality (cf. *I thought, I was thinking, I would think, I would have thought /that Bill was at home/*). Finally, *I think* can be negated (*I don't think*) and questioned (*do you think*).

The model of analysis I want to propose accounts for the structural flexibility of *I think* on a cline of pragmaticalization (see Figure 3.):

Stage 1	Stage 2	Stage 3
I think that Bill is at home	*I think Bill is at home*	*Bill is at home I think*

Figure 3: The cline of pragmaticalization of *I think*

The description of the syntactic and semantic properties of non-factive verbs like *think, believe, guess, suppose*, etc., which undergo the development in Figure 3., has a long history where the article "Fact" by Paul und Carol Kiparsky (1970) provides a milestone. The thrust of the Kiparskys' article was that the semantic distinction between factive ("presuppositional") and non-factive predicates had a number of repercussions in grammar.

Only non-factive predicates in the first person can, for example, be used parenthetically (cf. Urmson 1963). However, neither the Kiparskys nor Urmson looked for a deeper explanation for why non-factive verbs could be used parenthetically.

According to Plank (1981), the process is an example of syntactic-pragmatic reduction also illustrated by the raising of the subject of the subordinate clause with *seem* (e. g., *It seems that Bill is at home → Bill seems to be at home*), adverbialization (e. g., *It is apparent that he is at home → Apparently he is at home*), amalgamation of a superordinate with a subordinate clause (e. g., *he gave this I prefer not to know how awful paper*).[5] The functional precondition for the change is that the verb does not belong to the main part of the message, but expresses in a general way the speaker's attitude to the utterance.

That *I think* at Stage 1 is not only a weakened form of the verb but has lost its status as a main clause can be seen from the occurrence of "main-clause phenomena" in the complement clause after *I think*

(Hooper — Thompson 1973, Green 1976, Halliday 1985). The tag question in *I think /that/ Bill is at home isn't he* is, for example, acceptable, but hardly *I think Bill is at home don't I.*

Plank does not discuss the pragmatic correlates of "parentheticalization". As I see it, the simplest and most straightforward way of explaining the development of *I think* to a mobile discourse marker in pragmatic terms is to say that it is the result of conversational implicature and principles such as the Gricean maxim of quality ("Do not say what you believe to be false") (Grice 1975). Since the sincerity condition associated with the act of asserting or stating is that the speaker believes that the proposition is true, the hearer is allowed to make an inference about the truth of the proposition from the speaker's statement *I believe that (I think that) p.*

Grammaticalization has also been treated as a fairly mechanical process, which can be explained in terms of frequency and *that*-deletion. In the recent analysis of *I think* by Thompson — Mulac (1991), the frequency of *I think* without *that* is evidence for "grammaticalization".

> In other words, the evidence suggests that the most frequent subjects and verbs occurring with what syntacticians have considered to be '*that*-less' 'complements', ... have in fact been reanalyzed by speakers as epistemic phrases, which have a degree of freedom not possible for subject-verb combinations; in particular they are 'free' to occur in other positions, just as other epistemic phrases, such as epistemic adverbs, do in English. (1991: 317)

Even if Thompson — Mulac's proposal looks neat, it is not very likely for the following reasons.

First, such a development is not confirmed by what we know about the history of *think*. As Rissanen points out (1991: 283), there is no reason to regard *I think* without *that* as a result of a historical process of grammaticalization since "zero may have been the unmarked link in speech throughout the Old and Early Middle English period". Secondly, it is difficult to explain other examples of zero replacing *that* in the same way. It would, for example, be strange to say that *John said* in *John said Bill was fat* with zero has been reanalysed as an adverb.

Both diachronically and synchronically *that*-deletion may have other explanations. Diachronically, there is evidence for a gradual change in the frequency of zero after *think* and related verbs. In Rissanen's data (1991) from Early Modern English, zero was, for example, by far the most frequent variant after *think* (23/2 examples during the period 1500—1570 and 34/3 at a later stage (1640—1710).[6] According to Rissa-

nen, one of the reasons for this development may be a stylistic shift towards less formality although many other factors are involved.

Also in a synchronic context, zero is associated with text type and style. Thus it can be shown on the basis of the distribution of *that* and zero in the London—Lund Corpus that zero is frequent above all in certain text types.

In all there were 1757 examples of *I think* in the London-Lund Corpus distributed over different genres as shown in Table 1.:

Table 1: The distribution of *I think* (with or without *that*) over different text-types in LLC

Type of discourse	Number	r[a]
Informal face-to-face conversation	879	51
Non-surreptitious conversation, discussion, interviews	496	26
Public speaking, sports commentaries, etc.	176	29
Prepared speech, radio broadcasts, etc.	62	17
Telephone calls, messages on the answering machine, etc.	144	28
Total	1757	

a. Since the texts differ in size, the absolute frequencies have been supplemented with relative frequencies (= r) indicating the number of frequencies per 10,000 words.

In all, 1,644 (93%) examples were followed by zero. Thompson and Mulac (1991) found that *think* and *guess* were much more frequent without *that* than other verbs such as *believe* or *suggest*. In Table 2, the frequencies of *that* and zero after *I think* in the London-Lund Corpus are compared with Thompson and Mulac's American data:

Table 2: The distribution of *that* and zero after *I think* in LLC and in Thompson and Mulac (1991)

Type of complementiser	LLC	Thompson and Mulac
I think that	122 (7%)	54 (8%)
I think Ø	1644 (93%)	599 (92%)
Total	1766 (= 100%)	653 (= 100%)

If one compares the distribution of *that* or zero over different text types, it appears that zero dominated in informal conversation (842 examples or 94% of all the zero examples). *That* was above all used in discussion (48% of the examples). In more formal conversation or public speech, both genres characterized by little involvement and interaction, the percentages were lower (14% and 7% respectively). These results are compatible with Biber's who investigated primarily the difference between speech and writing.

According to Biber (1988),[7] the text type "informal conversation" in the London–Lund Corpus had the highest score of "private verbs" (e. g. *think*), first person subjects, and *that*-deletion, features which are characteristic of Involvement on the dimension Involved versus Informational production. On the other hand, prepared speech had the highest mean score for *that* according to Biber.

Biber was concerned with the analysis of text types in terms of linguistic criteria. *I think* has also been analysed in terms of the role of the speaker.

Briefly, what has been suggested by several writers (Benveniste 1966, Banfield 1973, Maynard 1993) is that there is an epistemological distinction between two functions of language: indicating facts and expressing the state of the speaker. When *I think* is expressive, its function is to express the speaker's emotions. In the fact-indicating or objective style, the speaker refers to himself and to his beliefs as if he referred to a third person. How *I think* is used is probably the speaker's own choice but linguistic indicators like *that* may indicate what style is used. Thus when *that* is used, *I think* is more likely to express an objective and informative statement about the speaker's beliefs:

(9)   A *I mean* I think that every single
          qu\estion#
          that I d\id#.
          I could n\/ot have done b\etter# −   (2.9 450−452)

2.2. The semantic structure of think

Think can have a number of different meanings such as 'believe', 'cogitate', and 'intend'. Preisler (1986) is the only writer I know who distinguishes between *think* 'find' expressing a subjective attitude and *think* 'believe'.

Some indirect proof for the different meanings of *think* and their relations comes from the history of the verb. To get a better idea of what

think means we can also analyse its functional equivalents and cross-linguistic correspondences in other languages.

We know from various sources (cf. Persson 1993; Palander-Collin, forthcoming) that there were two different verbs in Old English (OE *þen-can* and OE *þyncan*) representing different types of gradation of the same Indo-European root. Compare the following sentence pair (from Persson 1993: 9):

(10)   A *þyncan* (past tense *þuhte*) ('seem')
          þa Finnas, him þuhte, ond þā Beormas sprǣcon nēah ān geþēode.
          'The Finns it seemed to him and the Permians spoke almost one language'
          (*Ohthere's Voyage* I.34)

(11)   B *þencan* (past tense *þohte*) ('be of the opinion that'; to think, cogitate)
          ða ðōhte he þæt hē wolde gesecan helle godu, ...
          'Then thought he that he wanted to visit the gods of hell'
          (King Ælfred, *Orpheus and Eurydice* I.18)

The meaning of *þyncan* can be paraphrased by 'seem' (*me þuhte* 'it seemed to me') in present-day English while *þencan* expresses opinion (= 'believe'). The difference between the verbs is also syntactic since *þyncan* is impersonal with a dependent dative object functioning as the cause or the source of an experience while *þencan* has a personal subject. The verbs became indistinguishable as a result of phonological coalescence[8] and, in particular, the change from impersonal to personal subject starting in Middle English affecting *þyncan* (Persson 1993).

We are lucky to have a detailed analysis of the historical development of the meanings of *think* by Palander-Collin[9]. Unfortunately, however, Palander-Collin does not distinguish between the two senses 'belief' and 'attitude' in the later development of *think*. Still it is clear that they can and must be distinguished in present-day English.

Moreover, from the perspective of pragmaticalization it is desirable to assume that *think* is polysemous, and that categories can be organized as prototypes if they have several meanings. Compare Hopper − Traugott: "In general, from the perspective of grammaticalization it is methodologically essential to assume polysemy if there is a plausible semantic relationship, whether or not the forms belong to the same syntactic category, because otherwise relationships between more or less grammaticalized

variants of the same form cannot be established, either diachronically or synchronically" (1993: 71).

Polysemy has generally been treated as a stepchild in formal theories of semantics, probably because it is difficult to give a principled account of how meanings are related without considering both synchronic variation and diachronic change.

In the light of present-day semantic theory we could claim that *think* is organized as a prototype with COGITATION (= Swedish *tänka*; German *denken*) as a focus. This is a general concept which can easily be extended to belief, opinion and intention by inferencing. Schematically the different senses can be illustrated as in Figure 4.
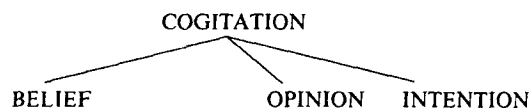
COGITATION

BELIEF   OPINION   INTENTION

Figure 4: The polysemic structure of *think*

COGITATION describes the meaning of the dynamic verb *think* (cf. *think of*, *I am thinking*). *Think* has affinities to *see*, another polysemous verb, because of its general nature and its grounding in the physical world. Unlike *think*, *see* has been much discussed as a source of metaphor and pragmatic extensions (cf. Alm-Arvius 1993; Sweetser 1990). Thus a well-known metaphoric relationship involving a relationship from concrete to abstract is that of seeing (cf. Latin *sequor* 'follow /with the eyes/') and understanding (*I see what you mean*) (cf. Sweetser 1990). A similar link can be established between thinking, i.e., a physical and concrete activity and opinion, a mental activity in order to explain the development COGITATION → BELIEF. The extension involves metaphoric strategies, i.e., speakers view the formation of an opinion or belief in terms of thinking and borrow the verb *think* to express the new meanings.

Evidence for this analysis is that the senses may "overlap" as in some dialects of Swedish where no distinction is made between *tänka* ('think') and *tro* ('believe') (*Han kommer nog snart tänker jag* 'He comes probably soon I think').

The transition from thinking to INTENTION shows that the same processes and principles are involved. The change is most clear in Swedish where *tänka* ('cogitate') is used both about thinking and as a 'purposive' future.

(12)   *Jag tänker göra det.*
       I   think do   it

       'I am thinking of doing it'; 'I intend to do it.'[10]

What takes place here is that the concept thinking is borrowed as a metaphor from the physical world to the world of intentions and planning (Sweetser 1990). In English we get a link between thinking and intending mainly in the past tense (OED, II.8):

(13)   *I thought that I should leave tomorrow.*

2.2.1. Functional and cross-linguistic equivalents of think

The diachronic analysis tells us little about the meanings of *think* in present-day English since the original semantic and syntactic distinctions are obscured by subsequent developments. By comparing *think* with its functional equivalents in English we can, however, sharpen the description of what *think* means. How are, for example, the following sentences related?

(14)   *Bill seems to be at home.*

(15)   *I think that Bill is at home.*

Semantically, (14) and (15) have a different analysis. When the impersonal *seem* is used, the subject functions as the cause of a cognitive experience, and the experiencer (*to me*) is optional. *Think* of course requires a personal subject sometimes called the recipient subject (cf. Palander-Collin, forthcoming). Sentences (14) and (15) are close in meaning. Chafe (1986), however, analyses *seem* as having the meaning induction (cf. Section 3) and thus as different from *think* or *believe*.

Seem also refers to general belief or opinion (in which case it is related to *I hear* rather than to *believe*).[11] Finally, in *It seems to me that Bill is a fool*, we are obliged to analyse *seem* as expressing a subjective attitude rather than opinion and as related to *find* (*I find Bill a fool*).

The meanings of *think* can be further elucidated by a cross-linguistic comparison. Swedish has, for example, three verbs *tänka*, *tycka*, and *tro* corresponding to 'cogitate', 'find', and 'believe' respectively. Other languages make the same distinction: German (*denken—glauben—*

nden—meinen) and French (*penser—croire—trouver*) while, for example, Modern Greek (Viberg 1980) is like English in using the same verb for both the meaning 'believe' and 'find'. The relationship between the verbs in four different languages (English, Swedish, German, French) can be represented as the criss-cross pattern of contrastive links shown in Figure 5.:
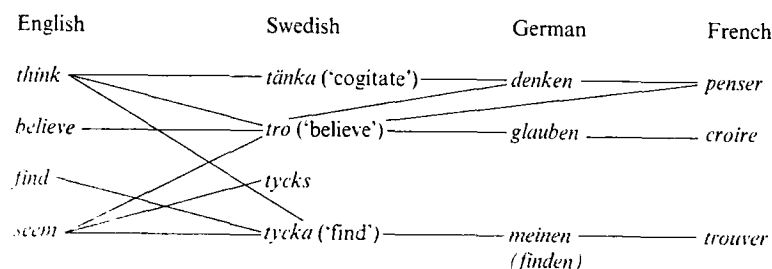
English   Swedish   German   French

think ＼＼＼＼＼ *tänka* ('cogitate') *denken* *penser*

believe ＼＼＼ *tro* ('believe') *glauben* *croire*

find ＼＼ *tycks*

seem ＼ *tycka* ('find') *meinen* *trouver*
                                   (finden)

Figure 5: Cross-linguistic equivalents of *think* and related verbs in English, Swedish, German, and French.

The cross-linguistic investigation helps us to establish under what conditions *think* does not mean 'believe'. When future time is referred to, *think* must, for example, be translated by *tro* 'believe':

(16)   *Jag tror   att   det blir   regn.*
          I   believe that it   becomes rain
          'I believe it's going to rain.'

In some examples *think* is translated by *tycka*. The "the rule of thumb" is that *think* can be translated into Swedish *tycka* when it does not mean 'believe'. (17) illustrates an example where *tycka* must be used in Swedish, and *think* therefore does not mean 'believe' but can be paraphrased by 'find':

(17)   *Jag tycker hon är söt.*
          I   think she is   pretty
          *Jag tror   hon är söt.
          I   believe she is   pretty
          'I think she is pretty.'

The conditions of use for *tycka* in Swedish are, however, complicated. The main rule seems to be that *tycka* must be used if the proposition

contains a degree adjective. The idea is that "she is pretty" is purely subjective, i.e., there is no simple way in which the hearer can bring in objective evidence which could cause the speaker to change his mind.

I believe she is pretty or *jag tror hon är söt* in Swedish would sound strange because the English sentence and its translation into Swedish would imply that the speaker has objective evidence rather than that he bases himself on personal opinion, impression, previous experience, etc. It would, however, be possible for the speaker to utter *I believe Bill's wife is pretty* implying, for example, that although he has not met Bill's wife he has reliable hearsay information that what is asserted in the proposition is true.

In other examples, the choice of *tycka* 'find' or *tro* 'believe' conveys a meaning difference:

(18)   *Jag tycker jag ser ett spöke.*
          'I think I see a ghost.'

In (18), the speaker reports directly what he sees (cf. Persson's (1993) "impression" sense and Chafe's (1986) "evidence" based on sense impressions). Compare:

(19)   *Jag tror jag ser ett spöke.*
          'I believe I see a ghost.'

(19) is appropriate when the speaker claims to have some evidence for what he sees.

It can be argued that in (20), *tro* ('believe') does not express epistemic modality, i.e., a commitment to the truth of the proposition, since what is expressed is a subjective opinion for which no evidence is available:

(20)   *Jag tror   att det vore bra   om du   kunde komma.*
          I   believe that it were good if you could come
          'I believe it would be a good idea if you could come.'

Compare:

(21)   *Jag tycker att det vore bra   om du   kunde komma.*
          I   think that it were good if you could come
          'I find it would be a good idea if you could come.'

It is clear however that (20) and (21) are used in different situations. In (20) the speaker uses his authority and refers to evidence (in his mind), while the proposition introduced by *tycka* is purely subjective.

Thus Swedish is a good example that 'thinking/believing' and 'thinking/finding' are different meanings although the distinction between the two meanings and their relation to epistemic modality is unclear.

A direct argument for distinguishing between the meanings 'find' and 'believe' is finally that the distinction can be expressed linguistically. The example I have in mind is *I would think*, which must have the meaning 'believe' as indicated by its functional equivalents in English ('believe') and by its cross-linguistic correspondences in Swedish:

(22)   *I would think that he is at home.*
        '*Jag skulle tro att han är hemma.*'
        'I would believe that he is at home.'
        'Jag skulle tycka att han är hemma.'
        'I would find that he is at home.'

(23)   ?*I would think she is pretty.*
        ?'*Jag skulle tro hon är söt.*'
        ?'I would believe that she is pretty.'
        'Jag skulle tycka att hon är söt.'
        'I would find her pretty.'

3. Defining epistemic modality

I think as a pragmatic element expresses epistemic modality. Modal logic[12] is, however, not an appropriate model for analysing pragmatic aspects of epistemic modality. We need a theory capable of accounting for the functions of a large number of morphologically different elements, including modal auxiliaries, modal particles, modal adverbs, verbs, morphologized moods, in terms of a number of pragmatic parameters. As Maynard (1993: 37) puts it:

> Obviously any departure from modal logic as a primary source of analysis creates the possibility for opening up modality research and making it perhaps even chaotic. The neatness and comfortable order imposed by traditional analysis of modal logic is replaced by often muddled and sometimes confusing explanations. Here we must remind ourselves that one must not celebrate a neat and tidy analysis merely because of its neatness. For, when faced with the untidiness of real-life use of language, we are compelled to acknowledge the limitations of a cleanly definable modal logic. Resurrecting the speaking self and recognising language as a self-expression negoti-

ated in intricately complex multilevel actual human interaction leads us toward a pragmatics-oriented concept of modality.

I think belongs to a system of epistemic modality which is closely related to evidentiality, i. e., the domain of linguistic elements expressing various attitudes to knowledge (Chafe 1986: 262). For example, if the speaker says *It's probably a spider*, the knowledge would be the idea that it is a spider, and *probably* indicates something about the degree of reliability of that knowledge (Chafe 1986: 263). In Chafe's model, the epistemology of "evidentials" in different languages is described with the help of the source of knowledge, the "mode" of knowing and the reliability of the knowledge (see Table 3).

In addition, knowledge may be matched against expectations (*of course*), against verbal resources or categories (*sort of*) or what is normally the case (*basically, essentially, normally*).

Table 3: Taxonomy of evidentials according to source of knowledge, mode of knowing, and reliability of knowledge (based on Chafe 1986)

Source of knowledge	Mode of knowing	Reliability
???	belief	high
hypothesis	deduction	
evidence	induction	
language	hearsay	low

Belief as the mode of knowing is difficult to analyse. A statement of belief is close to the expression of emotion: "*I believe* throws light on my state. Conclusions about my conduct can be drawn from this expression so there is a similarity here to expressions of emotion, of mood, etc." (Wittgenstein 1974: 191). However, *I believe* does not only express a subjective attitude. It also conveys that the speaker has some evidence for what he says. A closer analysis of belief suggests that the evidence is incomplete or non-specific (marked by ? in Table 3): "There may be evidence to support a belief, evidence which a believer may cite if pressed for it by a nonbeliever, but belief is always based on something other than evidence alone" (Chafe 1986: 266).

Deduction accounts not only for clear examples of deduction such as *that would be consistent with the obtained results* but also for some uses of *can* (*coke bottles can be difficult to open*).

Induction is exemplified by epistemic modal auxiliaries (*that must be a mistake; that will be the milkman*) and by impersonal verbs (*seem*). The

category can be further subclassified depending on the type of evidence. Within the evidential type "hearsay", a distinction can be made between *according to X* (reference to authority) and *it is said that* (unreliable knowledge).

The parameter "reliability of knowledge" is needed to analyse auxiliaries and adverbs (*probably, perhaps, may, might, could*). Reliability of knowledge must also be an independent dimension along which each mode of knowledge can move (Figure 6):
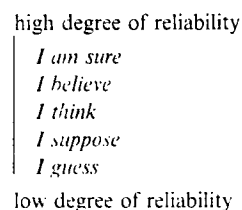
high degree of reliability

> *I am sure*
> *I believe*
> *I think*
> *I suppose*
> *I guess*

low degree of reliability

Figure 6: The scale of high and low degree of reliability (exemplified for the mode of knowledge "belief")

On this scale. *I am sure* expresses a stronger degree of commitment to the truth of the proposition than *I guess*. It is also possible to compare epistemic qualifiers expressing the same degree of reliability but belonging to different modes of knowledge, e. g., *seem, I think, must*.

For the purpose of analysing expressions of epistemic modality or evidentiality I shall use Caton's term "epistemic qualifier" (1969).[13] Typical epistemic qualifiers are modal auxiliaries (*may, must*), adjectives (*it is certain*), adverbs (*perhaps*), nouns (*there is a possibility*), and "epistemic parentheticals" (*I think, I believe, I guess*). In a cross-linguistic perspective one must take into account epistemic qualifiers which have been morphologized or are realized by modal particles. B. L. Whorf (1956) gives examples of a number of so-called modalizers or mood elements in Hopi with meanings such as "quotative" (*they say, according to the story*), "indeterminate" (*perhaps, possibly, maybe*), "concessive" (*it seems that, evidently, apparently*), etc. (see also Aijmer 1980).

The area of epistemic modality is, however, fuzzy. Epistemic qualifiers may, for example, slide across one of the types within the functional domain (Chafe 1986: 262). As a result, *it seems* can, for example, also belong to the category hearsay (*it seems that he has been abroad*). *(I) think* represents even greater problems since it has meanings which are not epistemic, and it slides easily across the boundary to different subcat-

egories. It is, for example, not clear whether it should be analysed as induction (like *seem*) or as belief (like *believe*).[14]

The main point about epistemic qualifiers seems to be that they either soften or reinforce illocutionary force. The following conversational text from the London-Lund Corpus illustrates the interactive use of some epistemic qualifiers:

[Informal conversation between female academics about the choice of pictures for the staff room and about personal matters.]

(24)   A there are c/ups# n\/escafe# -
         B shall we have a cup of c/offee#.
         A yes c\ertainly#
            yes *!c\ertainly#.
            y\es#
         B \/I see#
            they're all (6 seconds untranscribable) - -
         A s\ome of them are rather l/arge#.
         B [/m]#.
         A some of them are rather l\arge#
         B ((4 to 5 sylls)) ---
      A, B (10 seconds untranscribable)
         A y=es#
         B ((p\art)) of that r=eally#.
         A [/mhm]#.
            th=ink so#---
         B ((6 sylls -- 1 syll)).
         A p/ardon# -
         B y\es# --
            stick a !l\abel# -
            on them if !n\ecessary#
            ((5 to 6 sylls)) when you l\eave# ---
         A it's all !m\y f/ault ((you see))#
            you know he he !rang bef\ore#
            and I said well look here
         B */\oh#*
        (A I've *got* to !run !n\ow# -
            =and [ə]# -
            I said give !Br\enda pri/ority#
            I said I can't be back till ten p\/ast# ---

I've got a feeling I know this !f\ace
Brenda#.

B   [\mhm]#
I think one !d\oes 'know it# ---

A   ((got a)) !t\emperature# ---

B   *I don't think* I've \oh#
there \is milk#

A   ((3 to 4 sylls − 3 to 4 sylls)) well I'll tr\y it
[ə]#.
without *[ə] the first*

B   *y\es#
O/K#*

A   [əm] − ((2 sylls)) thank you very m\uch# --
((s\een))# ---

B   want any s/ugar#.

A   y\Ves please Brenda# -

B   /one#.

A   that's about r\ight#
yes !that's en/ough thank you# ---
not y/ours is it *((2 sylls))#*

B   *scr\ipts\oh no#*
those are my scr\ipt#
I just saw the n\ote#
((and I know that's all r/ight))# --

A   ((just)) put my gl\asses on#
I can't see a !th/\ing ((without them))# ---
((well after all)) they're too dark to be in!sp\iriting#
\aren't they#.

B   I don't w\ant one#
I'm afr/aid#

A   *I think* I(('d 'rather *substit/ute))#*

B   *y/es# (S1.8 2−60)

Epistemic qualifiers are used to avoid disagreement, to soften speech acts, or to express involvement. Using a term from Crystal − Davy (1975), we can refer to *I think* as a "softener" or "softening connective". *I think* may, for example, be used to soften a blunt assertion.

(25)   *I think* one !d\oes know it# ---

Like the simple *I think*, *I don't think* can be used to avoid bluntness.

(26)   B   *I don't think* I've \oh#
there \is milk#

Thus Tottie (1991) claims that "... it is certainly no accident that mental verbs collocate with negation, which adds to the emotional character of what is said, and which contributes to avoidance of bluntness, and to the achievement of what Fraser (1980) calls conversational mitigation" (1991: 43).

Certainly does not in the first place have epistemic meaning but expresses agreement:

(27)   A   yes c\ertainly#
yes !c\ertainly# y\es#

With *really* knowledge is matched against what is really or in fact the case (the evidential meaning) but it also contributes to the involvement expressed by the text:

(28)   ((p\art)) of that r=eally#.

3.1. The deliberative and tentative function of I think

Paradoxically, *I think* may express either uncertainty or certainty. Holmes (1990: 199), for example, recognizes "two distinct and contrastive functions of *I think*", depending on whether *I think* is prosodically and lexically more or less prominent.

On the one hand, *I think* signals "careful deliberation, objectivity and perhaps authority" (Preisler 1986). On the other hand, *I think* may have tentative function and express uncertainty.

In a corpus study, the criteria for classification have to be made explicit. The criteria I have used to distinguish between the deliberative and tentative function are prosodic, grammatical, and positional. *I think* has been classified as "deliberative" if it has the nuclear tone or a prosodic booster (marked by ! in the transcription) upgrading the prosodic prominence of the verb and occurs first in the utterance. Moreover, all examples where *I think* is followed by the *that*-complementizer have been regarded as deliberative since they carry some prominence. The other examples have been classified as tentative. Cases of *I think* in medial and final position have been classified as tentative even if they are prosodically prominent.

The tentative *I think* expresses uncertainty (epistemic modality) or softens an assertion which may be too blunt (interactive meaning).

(29)   B   but he also sold th\at business
{s\ince#}#
he sold th\/at business#
I think that was sold for an/\other quarter of a m/illion#
((w\asn't it# (1.13: 774–777)

In the deliberative function *I think* adds weight to the assertion or expresses reassurance (Holmes 1990).

(30)   D   y\es#+y\es# --
((4 sylls))+
B   +I th\ink {th\at [ə:]#}#
the b\/oys#
had all+ h\ad {an adv\antage#}# (1.12: 187–192)

The effects of the deliberative and tentative *I think* are quite different even though both have to do with politeness. The deliberative *I think* expresses positive politeness and "rapport", while the tentative *I think* is associated with social distancing and with negative politeness (Brown – Levinson 1978).

In (31) and (32), *I think* is mildly authoritative and can be paraphrased as 'I am almost sure that':

(31)   a   the C V C \P#
I {th\ink is} t\aking [ð̄i:]. {l\ine#}#
that I've !just – [i]:nn\ounced#. (5.13: 225–227)

(32)   f   and !Chris Ll\oyd#
came to the n\et then#
I th\ink for the f/irst time in the m\atch# -- (10.10: 1010–1012)

If the nucleus is moved from the verb to the subject, more reinforcement and reassurance are expressed:

(33)   B   [ə:m] -- \/I think that could be done#
by negoti\ation#
with with whoever one was teaching it
w\ith# (3.6: 224–226)

Table 4 demonstrates that the tentative function was by far the most frequent one (85%) in the London–Lund Corpus:

Table 4: Distribution of the tentative and deliberative *I think* in LLC[15]

Type of *I think*	Number
tentative	1497 (85%)
deliberative	260 (15%)
Total	1757

There was little evidence in the London–Lund Corpus that the deliberative or tentative use of *I think* was sex-specific although one can expect pragmatic variants to be sensitive to such distinctions (see Preisler 1986; Holmes 1990). Holmes (1990) found, for example, that women used *I think* more frequently than men in the deliberative function. The data from the London–Lund Corpus are shown in Table 5.

Table 5: Distribution of the function of *I think* on the basis of sex of speaker

Type of *I think*	Female	Male
tentative	438 (83%)	878 (85%)
deliberative	89 (17%)	146 (15%)
Total	527 (100%)	1024 (100%)

The table shows that the overall frequency of *I think* is higher among male speakers, but that there is hardly any difference with regard to function.

3.2. I think *in mid and end position*

The distribution of *I think* in different positions in the utterance is shown in Table 6:

Table 6: Distribution of *I think* in different positions in the utterance

Position	Number
Front	1377
Mid	159
End	221
Total	1757

Position seems to be important for the function of *I think*. In the first occurrence of *I think* in (34), the tone is falling and the function reinforcing ('deliberative'). When *I think* is placed at the end of the utterance, less certainty is signalled.

(34)   a   in I !th\ink#
          nineteen sixty-!six sixty-!s\even#
          sixty-seven I th/ink# - (11.2: 290-292)

Whether *I think* appears in medial or final position seems to be an effect of the speaker's planning. *I think* is inserted where it is natural for the speaker to stop to plan, for example after a nominal head as subject.

(35)   tl   Diana !D\ors I th/ink#
            would be m\y choice# (5.1: 618-619)

The characteristic intonation pattern is a rising tone on *I think* and a fall tone on the immediately preceding word. *I think* can also be placed between elements in the verb phrase with only a slightly different semantic effect:

(36)   b   as . Dennis Danby and V\I#.
          may be !s\aid I th/ink#
          to . represent . the . es!tablished pr/actice#
          I suggest that we ask Mr !M\Voore#. (5.6: 14-17)

(37)   c   it is l\udicrous I th/ink#
          that we sh\ould {ins\ist#}#
          in the Civil Service and \elsewhere# - (5.5: 281-283)

I think was usually found before or after tone unit boundaries indicating that it cooccurs with the speaker's planning. A minority of examples (17 examples) did not carry the nucleus in mid position:

(38)   B   and of course the loc\ations# .
          are . I think absolutely es!s\ential#
          to make the thing -- !y\ou know# .
          practically \useful# . (2.1: 694-697)

The speaker has several alternative ways of presenting the information. The parenthetical *I think* can, for example, form a separate intonation group. *I think* functions as "an afterthought" qualifying some information which has been given in the preceding part of the utterance. The tone was usually rising. For example:

(39)   A   who [sei] they've !now got a !fl\at# -
          in !Crouch !!/\End#
          I th/ink# (1.6: 84-86)

(40)   C   [\m]# -
          it's bound to come \Vout though#.
          I th/ink# -
       a   do you think so
       C   [\m]#. (2.7: 162-166)

Secondly, *I think* can be presented as a post-nuclear "tail" pronounced on a low pitch (Altenberg 1987: 30) as in example (41) or carry the nucleus in a larger tone unit pattern (e. g., examples 36 and 37 above):

(41)   B   that he I mean he's a very !{\interesting}
          c\andidate H/erman I think#
          although he h\e's becoming /old# (2.6: 757-758)

It is unlikely that *I think* in (41) serves a different function when it is prosodically less prominent. The choice between the variants in which *I think* has mid or end position depends on extralinguistic factors such as the speed of delivery and planning and is ultimately the speaker's own choice (cf. Altenberg 1987). The clitic *I think* (followed by a tone-unit boundary) is also a polite way of softening or downtoning a previous "head".

(42)   c   it's m\Vainly#
          cos a \Vot of them I think#
          come from Catholic families and
          *((they're +never even)) !m\entioned#. (4.7: 879-881)

A comparison can be made with the conjunct *however* which can follow a noun phrase head as a "clitic" (*The judge, however, took a different view*) besides having initial position (*However, the judge took a different view*) without any noticeable difference in function. (Hopper – Traugott 1993: 133).