

File ID 112922  
Filename Chapter 1 Typology and modality

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SOURCE (OR PART OF THE FOLLOWING SOURCE):

Type Dissertation  
Title Modality in typological perspective  
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Faculty Faculty of Humanities  
Year 2008  
Pages x, 236  
ISBN 978-90-9023343-7

FULL BIBLIOGRAPHIC DETAILS:

<http://dare.uva.nl/record/277914>

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## Chapter 1

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# Typology and modality

In this chapter I will present some basic notions of the typological approach to linguistics and some relevant typologies of modality. I will first give some different but related perspectives on the way to look at typology as a linguistic field and the challenges one has to face in the typological approach. After this general introduction I will turn to the category under scrutiny in this dissertation: modality. I will furthermore present some classifications of the notional category of modality based on cross-linguistic comparison (typologies of modality).

## 1.1 Typology

### 1.1.1 Variation in the languages of the world

The world counts around 6000 languages (up to 7000 according to some sources). If there is something certain about this number, it is that it contains much variation. That is, variation is a basic fact about the world's languages. A straightforward part of the meaning of the word *typology* is that of classification into types. Therefore we have now defined the coarsest, and most trivial, way to typologize or classify languages: each language is its own type (identical with itself and different from the others). This truism, however, raises the question of the distinctiveness of languages. How can we decide in the first place that two languages are different? This is best illustrated by an example. English and Dutch differ structurally from each other in their phonology and morphology as well as in their syntax. For instance, the word order of the English relative clause is SVO (Subject-Verb-Object), whereas Dutch word order is SOV. Of course, a different word order in the relative clause is not enough to claim that English and Dutch are distinct languages, and this conclusion is drawn from a broad range of other structural differences between the two languages.

In order to situate typology within linguistics, we can use an analogy with psychology made by Greenberg (1974, p27): “every language is in certain re-

spects,”

1. like no other languages,
2. like some other languages,
3. like all other languages.”

To begin with the first point: this is the traditional area of linguistics and concerns the study of particular languages. That is, the object of study is a unique language. Language descriptions and grammars are useful tools for the typologist but are not more than a prerequisite for typological work. In the typological tradition, the unique variations between languages are considered as a random phenomenon that will ultimately need to be explained. However, such variations do not reflect general properties of language. One of the goals of typology is to find those properties that are not random in language variation, and this enterprise is based on the assumption that it makes sense to look for such properties, that is as Greenberg (1974, p54) puts it:

“The hypothesis that typology is of theoretical interest is essentially the hypothesis that the ways in which languages differ from each other are not entirely random. . . .”

The second point is about classification, i.e., the finding of relevant types or strategies along which languages can be classified. This is an important part of the typological approach which involves cross-linguistic investigation. A typology is of course in some sense of the word a classification, for instance a classification of languages, but making this classification the endpoint of all typological work would be too reductive. Finally the third point is about finding generalization within the classification, that is, correlations between different types and classified languages. This step is the search for language universals.

### 1.1.2 Language comparison

First, in order to classify, we need to compare languages. In the case of English and Dutch word order in relative clauses we would thus need to identify the categories of subject, object, verb and of course relative clauses.

Traditionally, typology is based on the comparison of surface structures or properties among different languages. This makes the use of structural definitions of grammatical categories almost impossible in order to compare languages as the definition would already exclude other structures that might express this category. The structures have to be found based on structure-external criteria, for instance, semantic criteria. Croft (2003, p14) describes the strategy to follow:

- “(i) Determine the particular semantic(-pragmatic) structure or situation type that one is interested in studying.

- (ii) Examine the morphosyntactic construction(s) or strategies used to encode that situation type.
- (iii) Search for dependencies between the construction(s) used for that situation and other linguistic factors: other structural features, other external functions expressed by the construction in question, or both.”

Therefore, the typological classification will be based on grammatical categories that will be externally defined by semantic criteria. This ensures that we do not a priori exclude any construction used to express modality.

### 1.1.3 Three steps of typology

A different perspective on typology is to consider it more globally as a general approach to linguistics. That is, the typological approach consists first of steps 2 and 3 mentioned in (Greenberg 1974, p27). We compare languages, classify them and extract generalizations about the patterns observed. However, the typological approach also aims at explaining those patterns, usually in functionalist terms (the patterns observed relative to some structures will thus be explained in terms of the function of these structures). We can therefore characterize the typological approach as an empirical approach to language consisting of three layers as in (Croft 2003, p2):

1. typological classification based on surface structure (descriptive part)
2. typological generalization (language universals)
3. functional-typological approach (external explanation of the universals)

Those three steps quite nicely fit in a slightly modified version of the schema provided in the introduction: The last step is presented a bit differently than in

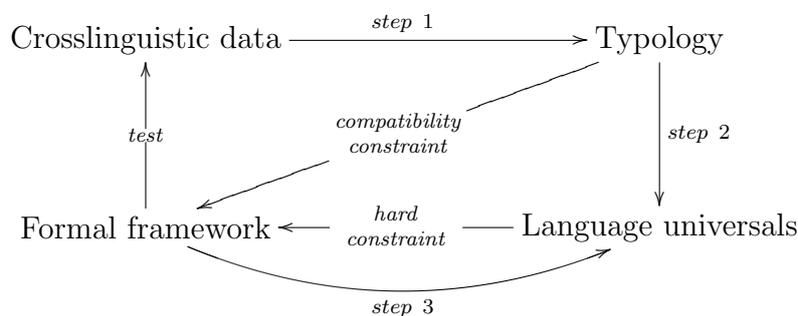


Figure 1.1: The three steps of the typological approach.

(Croft 2003, p2). This is because I will not provide a functional explanation of

language universals but try to provide a formal semantic framework that accounts for and explains them. The diagram reflects furthermore the fact that, although the minimum requirement on the formal theory is to be descriptively adequate with respect to the language universals, we also want it to be explanatory.

Of course the first step of the typological approach is only made possible through the availability of precise data (descriptive grammars, native speakers, informants, etc. . . ) of a large sample of languages. This brings us to the question of the selection of the languages to be considered.

### 1.1.4 Language sample

As already stated, there are about 6000 languages in the world and we obviously need a way to select some of them in order to obtain a sample of workable size. There are two main strategies to construct a sample and the choice between these two is guided by the purpose of the investigation. The first strategy is to construct a probability sample. This is best suited to testing the statistical relevance of some pattern or more generally to making statistical generalizations. The second strategy is to construct a variety sample. This type of sample “is designed to maximize the amount of variation in the data” for the structure or phenomenon under scrutiny (Rijkhoff, Bakker, Hengeveld and Kahrel 1993). As the topic of this dissertation is the study of modality from a typological perspective it seems natural to choose for the strategy of a variety sample. A way to select such a variety sample is presented in (Rijkhoff et al. 1993). This method is designed to obtain a sample as diverse as possible by avoiding above all genetic bias in the sample (instead of, for instance, geographical bias). This means that, based on the classification of (Ruhlen 1987), we would at least have to pick a language for each of the 27 groups of genetically related languages also called phyla<sup>1</sup> in order to have a representative and diverse sample.<sup>2</sup>

The core problem when designing a sample is the availability of documentation on the chosen languages. It is needless to say that language  $x$  of phylum  $y$  is not a good candidate to represent phylum  $y$  if there is no (descriptive) grammar available nor any access to texts, native speakers or informants. Furthermore, even when a descriptive grammar is available for a particular language, it is often not sufficient to form a coherent picture of the modal system. These two problems are the reason why the sample in this dissertation will not reach the 27 languages but be limited to 6: Dutch (Indo-Hittite), the Gbe cluster (Niger-Kordofanian), Korean (Korean-Japanese / language isolate), Lillooet (Salishan), Turkish (Altaic) and Tuvaluan (Austic).

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<sup>1</sup>Notice that the definition/composition of those phyla is still a subject of discussion.

<sup>2</sup>The main point of (Rijkhoff et al. 1993) is to give a method to improve the diversity of the sample by allowing some genetic bias (some phyla are represented by more than one language).

### 1.1.5 Language universals

Once the language sample has been constructed and a classification into types has been made, it is possible to look for language universals. Language universals are a generalization of the typology as they tell us which types of languages are possible as a function of one or more parameters. There are two basic types of language universals: unrestricted and implicational universals.

#### Unrestricted universals

The following quote from (Croft 2003, p52) explains perfectly what an unrestricted universal is:

“An unrestricted universal is an assertion that all languages belong to a particular grammatical type on some parameter, and the other types on the same parameter are not attested (or extremely rare).”

Therefore an unrestricted universal says that on some parameter (almost) all languages belong to the same type. Croft (2003, p52) also provides an example of such a parameter in the realm of phonology: having oral vowels. The corresponding unrestricted universal is that “all languages have oral vowels.” This means that, according to the situation pictured in figure 1.1, any theory of phonology must at least be compatible with this fact. It is also desirable that this theory provides support for an (functional) explanation of the phenomenon.

An important contribution of this dissertation will be to acknowledge the status of unrestricted universal of a particular statement about combinations of modal items and to provide an explanation based on a formal semantic framework.

#### Implicational universals

Implicational universals restrict the possible types of languages through an implicational statement with two parameters. Therefore, if we consider two parameters  $P$  and  $Q$ , an implicational universal is a true statement of the form *if a language has  $P$  then it has  $Q$*  (write  $P \rightarrow Q$ ). The truth table<sup>3</sup> for such an implication is:

$P$	$Q$	$P \rightarrow Q$
1	1	1
1	0	0
0	1	1
0	0	1

The implicational universal accounts thus for the following pattern. Languages that obey parameter  $P$  but not  $Q$  are not attested (or only marginally) and all the other combinations of parameters are possible and attested.

<sup>3</sup>I follow the usual notation and write 1 for “true” and 0 for “false.”

## 1.2 Typologies of modality

As explained in the previous section, the first problem of any typological investigation is to determine the semantic structure that is going to be investigated and to find the strategies used to express it. Modality, however, cannot be characterized as a unique semantic structure or type but is more a whole category of (related) semantic structures. Notice that we shift the use of the word *typology* in the sense that we will not so much try to classify languages (in terms of one or more parameters) but instead give a typology of a certain notional category based on the languages of the world where it is found. That is, we are looking for a cross-linguistically based typology of a certain notion or structure.

The main problem is that there is no agreement on the precise delimitation of the different modal semantic subtypes. Roughly, the only agreement seems to be that all scholars in the field make a distinction between an epistemic and a non-epistemic subtype. I will now present some of those typologies: Palmer (1986) (here as Palmer (2001)), Hengeveld (2004) and van der Auwera and Plungian (1998). The goal will be to determine which distinctions are the most relevant for this investigation. The view entertained here is that there is no perfect typology of modality but only good typologies suited to the purpose of a given study. Notice finally that an overlap of terminology will be unavoidable in the review of the different typologies but that, whenever possible, differences will be highlighted.

### 1.2.1 Palmer

According to Palmer (2001, p1), “modality is a valid cross-language grammatical category that can be the subject of a typological study.” Palmer proposes a classification of the different types of modality where a basic distinction is made between mood (irrealis/realis included) and modal systems as the two grammatical ways to express the notion of modality. Languages may use both systems (although I will concentrate this inquiry on modal systems). The mood systems are characterized by a binary distinction between indicative and subjunctive or realis and irrealis (the imperative being left by Palmer outside of the core mood system), the distinction being made on the ground of syntactic distribution. Even though modality can thus be expressed by the mood/irrealis strategies, the mood systems are usually not specialized therein. I will therefore leave mood aside and concentrate instead on what Palmer calls modals systems. To be more precise, I will focus on those elements, grammatical and sometimes lexical, specialized in expressing modality (and therefore part of the modal system). Palmer’s modal systems (see figure 1.2) are divided in two major categories: propositional modality and event modality. The former is concerned with the “speaker’s attitude to the truth value or factual status of the proposition” whereas event modality refers to “events that are not actualized, . . . that have not taken place but are merely potential” (Palmer 2001, p24 and p70 respectively).

Propositional modality		Event modality	
Epistemic	Evidential	Deontic	Dynamic
Speculative	Reported	Permissive	Abilitive
Deductive	Sensory	Obligative	Volitive
Assumptive		Commissive	

Figure 1.2: Palmer’s modal system

Propositional modality is crucially characterized as a speaker’s attitude. I will later argue that the speaker’s role should, in this definition, be replaced by a more neutral notion, because it is not necessarily the speaker that expresses his attitude, as can be seen in quotation contexts, under verbs of saying or under hearsay evidentials. I will adopt Palmer’s division of propositional modality into epistemic and evidential even though I won’t keep the overarching category as such. It seems to be at a level of description too coarse to be useful and it is actually not a settled issue among scholars whether evidentiality and epistemic modality should be considered as part of the same system. Therefore I will focus on epistemic and evidential modality. Further classification is at this point not really needed in the epistemic realm (divided by Palmer into speculative, deductive and assumptive), however I will now comment on Palmer’s subcategories of evidentiality. Palmer distinguishes between two major types of evidentiality in modal systems, reported and sensory evidentials, but nonetheless agrees in (Palmer 2001, p9) that one could consider these two types as direct subcategories of propositional modality (see figure 1.3). The Turkish *-mİş* past is actually

Propositional modality
Epistemic
Reported
Sensory

Figure 1.3: Palmer’s alternative typology of propositional modality

a good example of a modal item involving all three categories of propositional modality (besides being a past participle). It can be used to express reported modality (hearsay) or “inference from observed facts.”<sup>4</sup> This last interpretation is a subtle combination of what Palmer calls a deductive (usually called inferential) based on direct sensory evidence, though not of the state of affairs itself. In the following I will neglect sensory evidentials, and for instance, treat Turkish *-mİş* as either reported or inferential (not mentioning the sensory nuances). This

<sup>4</sup>(Lewis 1975, p122)

choice is partly driven by a problem of scarcity of data on sensory evidentials and by the fact that reported evidentials seem to be richer in their ability to combine meaningfully with epistemic expressions. Furthermore we will see that some authors consider the deductive/inferential category as inherently evidential (the reason for that is somewhat illustrated by the Turkish *-mİş*: inference based on evidence). Therefore I will use in the following the term evidential with the restricted meaning of quotative and reported evidentials.

Event modality has two sub-types: deontic and dynamic modality. Deontic modality has to do with obligations and permissions imposed on an agent, or a group of agents, by himself or others. Palmer distinguishes thus between permissive, obligative and commissive. The distinctions made in dynamic modality between ability and volition are quite straightforward. In particular, volitive modality is about the agent's desires and wishes whereas abilitive modality is about the agent's capacities to perform certain events. It should be noticed that modal items for volitive modality seem to be able to express assumptive and commissive modality as well (at least in English, see (Palmer 2001, p78)) and we will see that they seem to have some properties that set them apart from the other modals. I will therefore leave them out of this study, considering that they need a work of their own.

Finally, Palmer identifies three main types of grammatical markers involved in modality, Palmer (2001, p19):

1. individual suffixes, clitics and particles,
2. inflection,
3. modal verbs.

As I already mentioned I will also use lexical items and idiomatic constructions. This will mainly happen in situations where the scarcity of grammaticalized modal items makes it a relevant way to obtain more data in order to illustrate the main thesis of this dissertation about the scope of modal elements.

### 1.2.2 Hengeveld

Hengeveld (2004) proposes a typology of modality that reflects the different layers of the clause structure in the functional grammar tradition. That is, modal elements can be seen as modifiers (also called operators) at different layers of the clause (predication, event or proposition). Hengeveld (2004) uses two classifying parameters: the target of evaluation and the domain of evaluation. The target of evaluation is crucially the part that represents these different layers of modification in the clause. It is thus constituted of three different parts:

1. Participant-oriented modality.

2. Event-oriented modality.
3. Proposition-oriented modality.

The first type characterizes those modal items that somehow modify the relation between a participant and an event. A typical example would be the modal *can* in the following example:

- (1) John can break this code.

The event-oriented type concerns the assessment of the descriptive content of a sentence and most importantly, doesn't involve the speaker's judgement. In the following sentence, the modal verb *must* describes a general obligation or regulation but doesn't modify the relation between a participant and an event.

- (2) Thesis paper must be acid-free.

The last type, propositional modality, specifies the speaker's judgement, or attitude, towards the proposition (notice the similarity with Palmer's notion of propositional modality) as illustrated in example (3).

- (3) Maybe John went to the conference.

The second parameter is the domain of evaluation. This is the place of the traditional modal distinctions.

1. Facultative (abilities).
2. Deontic.
3. Volitive.
4. Epistemic.
5. Evidential.

As Hengeveld (2004, p1193) notes these two parameters should lead to 15 different combinations, however, only 10 out of the 15 possible are actually realized as can be seen in figure 1.4. Hengeveld (2004) argues that this is due to incompatibilities between some values of the target of evaluation and of the domain of evaluation. For instance, it doesn't seem to make sense to evaluate the propositional content of an utterance (i.e. target of evaluation = propositional modality) on the basis of their 'ability' (domain of evaluation = facultative). Ability is a notion that typically applies to agents not to propositions. As I already mentioned I will not consider volitive modality. It can be noticed that this is the only domain that is represented at all levels of evaluation which makes it quite unfit for investigation concerning its combinations with other modals (namely, within this typology, it should be able to combine at almost all levels). It is quite instructive to compare

Domain	Target		
	Participant	Event	Proposition
Facultative	+	+	-
Deontic	+	+	-
Volitive	+	+	+
Epistemic	-	+	+
Evidential	-	-	+

Figure 1.4: Hengeveld’s typology of modality

Hengeveld’s typology with Palmer’s. The most flagrant difference is the addition of Hengeveld’s event-oriented modality. This new type seems to be situated somewhere in between Palmer’s propositional and event modality. Actually it is probably more appropriate to see it not as creating a new type but as a reshaping of the typology. The fact is that the distinction between propositional and event modality is fairly uncontroversial for the core meaning of those categories. The problem occurs at the ‘border’ of the categories, for instance, when a dynamic or deontic modal is used with a non-animate subject. The question is then whether the difference in meaning necessitates the introduction of a new type. I will side with (Hengeveld 2004) on this issue and assume that there is a relevant modal meaning that is not directly connected to participants in events and yet not epistemic or necessarily deontic.

For my purpose there is however a major problem with this typology. Although the defined types correspond to sensible choices, the design of the typology is somehow unfortunate. Namely, the target of evaluation presupposes a particular vision of the operators and of their combinations within a clause that already constrains their a-priori combinations. Therefore I propose to keep in mind the relevant distinctions but to reorganize the types in a neutral configuration with respect to our problem of modal combinations.

### 1.2.3 Van der Auwera and Plungian

I will now present the typology of modality of van der Auwera and Plungian (1998) as illustrated in figure 1.5. Their system builds on Bybee et al. (1994) to construct a semantic map of modality. That is, their goal is to provide a map of the grammaticalization paths of modal items. They define modality as the “semantic domains that involve possibility and necessity as paradigmatic variants”<sup>5</sup> and distinguish four main types:

1. Participant-internal modality,

<sup>5</sup>van der Auwera and Plungian (1998, p80)

2. Participant-external modality,
3. Deontic modality ( $\subseteq$  participant-external modality),
4. Epistemic modality.

The focus on possibility and necessity partly justifies their decision to leave volition and evidentials outside the scope of their study. Evidentials of the inferential type are actually incorporated within epistemic modality: “Inferential evidentiality is thus regarded as an overlap category between modality and evidentiality” (van der Auwera and Plungian 1998, p86). I will however stay neutral on whether inferential evidentiality overlaps only with epistemic necessity, and just distinguish between evidential and epistemic: the first one representing hearsay and quotative meanings, the second standing for the speaker’s assessment or inference based on knowledge of a proposition.

One important similarity with Hengeveld’s typology is the space created for a modality that is neither a judgement on the part of the speaker (propositional-oriented and epistemic respectively) nor the qualification of the performance of an event by an agent (participant-oriented and participant-internal respectively). I will however side with (van der Auwera and Plungian 1998) and consider that deontic modality is a sub-type of participant-external modality. Anticipating on the data, I want to claim that this choice will be warranted because first, participant-external items outscope participant-internal items and second, because the distinction between the participant and event oriented domains blurs this result in the sense that, for instance, deontic modality can be both seen as participant and event oriented modality.

Possibility/Necessity	
Non-epistemic possibility	Epistemic possibility
Participant-internal	Participant-external
Non-deontic	Deontic possibility

Figure 1.5: Van der Auwera and Plungian’s typology of modality

Finally, van der Auwera and Plungian (1998) only consider grammaticalized items, or items on their way to be grammaticalized. Therefore, the same remark as for Palmer (2001) and Hengeveld (2004) applies here. I will make use of a wider range of modal items or constructions when needed.

### 1.2.4 Typology of modality

To summarize, I will begin the investigation with the following typology (which can be seen as a simplified and slightly modified (i.e. less detailed) version of van der Auwera and Plungian (1998)'s typology):

Participant-internal	Participant-external		Epistemic
	Deontic	Goal-oriented	
Ability	Permission	Possibility	Possibility
Needs	Obligation	Necessity	Necessity

The modal items under investigation will not be restricted to grammatical items, but I will also be looking at lexical items when the analysis will benefit from additional data. The constructions under scrutiny will thus be the following: particles, inflection, auxiliaries, periphrasis (complex constructions), derivation and such lexical means as plain verbs and adverbs.