

Tense and Aspect  
in the Languages of Europe



# Empirical Approaches to Language Typology



EUROTYP 20-6

*Editors*

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# Tense and Aspect in the Languages of Europe

*edited by*

Östen Dahl

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## General preface

The present volume is one of a series of nine volumes in which the results of the European research project “Typology of Languages in Europe” (EURO-TYP) are published. The initiative for a European project on language typology came from a proposal jointly submitted to the European Science Foundation (ESF) by Johannes Bechert (University of Bremen), Claude Buridant (University of Strasbourg), Martin Harris (University of Salford, now University of Manchester) and Paolo Ramat (University of Pavia).

On the basis of this proposal and following consultations with six experts the Standing Committee for the Humanities of the ESF decided to organize a workshop (Rome, January 1988), in which this idea was further explored and developed. The results of this workshop (published by Mouton, 1990) were sufficiently encouraging for the Standing Committee to appoint a preparatory committee and entrust it with the tasks of drawing up a preliminary proposal, of securing interest and participation from a sufficiently large number of scholars and of finding a suitable programme director. The project proposal formulated and sent out by Simon Dik (University of Amsterdam) as chair of this committee met with very supportive and enthusiastic reactions, so that the Standing Committee for the Humanities recommended the funding of a planning stage and the General Assembly of the ESF approved a year zero (1989) for an ESF Programme in Language Typology.

During this planning phase all major decisions concerning the management structure and the organisation of the work were taken, i. e., the selection of a programme director, the selection of nine focal areas around which the research was to be organized, the selection of a theme coordinator for each theme and the selection of the advisory committee.

The first task of the programme director was to draw up a definitive project proposal, which was supplemented with individual proposals for each theme formulated by the theme coordinators, and this new proposal became the basis of a decision by the ESF to fund the Programme for a period of five years (1990–1994).

Language typology is the study of regularities, patterns and limits in cross-linguistic variation. The major goal of EURO-TYP was to study the patterns and limits of variation in nine focal areas: pragmatic organization of discourse, constituent order, subordination and complementation, adverbial constructions, tense and aspect, noun phrase structure, clitics and word prosodic systems in the languages of Europe. The decision to restrict the investigation to

the languages of Europe was imposed for purely practical and pragmatic reasons. In the course of the project an attempt was made, however, to make as much sense of this restriction as possible, by characterizing the specific features of European languages against the background of non-European languages and by identifying areal phenomena (*Sprachbünde*) within Europe.

More specifically, the goals of the EUROTYP project included the following:

- to contribute to the analysis of the nine domains singled out as focal areas, to assess patterns and limits of cross-linguistic variation and to offer explanations of the patterns observed.
- to bring linguists from various European countries and from different schools or traditions of linguistics together within a major international project on language typology and in doing so create a new basis for future cooperative ventures within the field of linguistics. More than 100 linguists from more than 20 European countries and the United States participated in the project.
- to promote the field of language typology inside and outside of Europe. More specifically, an attempt was made to subject to typological analysis a large number of new aspects and domains of language which were uncharted territory before.
- to provide new insights into the specific properties of European languages and thus contribute to the characterization of Europe as a linguistic area (*Sprachbund*).
- to make a contribution to the methodology and the theoretical foundations of typology by developing new forms of cooperation and by assessing the role of inductive generalization and the role of theory construction in language typology. We had a further, more ambitious goal, namely to make a contribution to linguistic theory by uncovering major patterns of variation across an important subset of languages, by providing a large testing ground for theoretical controversies and by further developing certain theories in connection with a variety of languages.

The results of our work are documented in the nine final volumes:

Pragmatic Organization of Discourse in the Languages of Europe (edited by G. Bernini)

Constituent Order in the Languages of Europe (edited by A. Siewierska)

Subordination and Complementation in the Languages of Europe (edited by N. Vincent)

Actance et Valence dans les langues d l'Europe (edited by J. Feuillet)

Adverbial Constructions in the Languages of Europe (edited by J. van der Auwera)

Tense and Aspect in the Languages of Europe (edited by Ö. Dahl)

Noun Phrase Structure in the Languages of Europe (edited by F. Plank)  
 Clitics in the Languages of Europe (edited by H. van Riemsdijk)  
 Word Prosodic Systems in the Languages of Europe (edited by H. van der Hulst)

In addition, the EUROTYP Project led to a large number of related activities and publications, too numerous to be listed here.

At the end of this preface, I would like to express my profound appreciation to all organizations and individuals who made this project possible. First and foremost, I must mention the European Science Foundation, who funded and supported the Programme. More specifically, I would like to express my appreciation to Christoph Mühlberg, Max Sparreboom and Geneviève Schauinger for their constant and efficient support, without which we would not have been able to concentrate on our work. I would, furthermore, like to thank my colleague and assistant, Martin Haspelmath, and indeed all the participants in the Programme for their dedication and hard work. I finally acknowledge with gratitude the crucial role played by Johannes Bechert and Simon Dik in getting this project off the ground. Their illness and untimely deaths deprived us all of two of the project's major instigators.

Berlin, September 1995

*Ekkehard König, Programme Director*





## Preface

This volume contains about twenty papers which represent the work of the EURO-TYP Theme Group on Tense and Aspect. (The final versions were submitted in 1997, and no substantial updates have been undertaken since then.)

I want to thank here first and foremost the authors of the papers, not only for their work but also for the patience they have shown during the long and complex editing process. In addition to the authors, several other people participated in our group meetings and contributed greatly to the discussions: Joan Bybee, Bernard Comrie, Martin Haspelmath, Ekkehard König, Barbara Moltzer, Vladimir Nedjalkov, Nina Niissalo, Svenka Savić, Suzanne Schlyter. Obviously, the number of people who have helped us with information on various languages, in particular by filling out our rather extensive questionnaires, is much larger, making it impossible to enumerate them here. A general thanks is extended to them on behalf of all the members of our group. Also, we thank all people who were helpful in the organization of the meetings, in particular the ESF staff in Strassbourg, who were always been willing to assist us when needed. For contributing to the major task of converting our manuscripts into a neat printed volume, we thank Susan Long, who corrected our English, Bernard Comrie and Georg Bossong, the series editors, and the staff of Mouton de Gruyter.

Finally, two persons deserve special mention here: the late Simon Dik, without whom there surely would have been no EUROTYP program, and Larissa Bister, our goddaughter, whose birth coincided with the final group meeting in Helsinki. To them we dedicate this volume.

Stockholm, March 2000

Östen Dahl



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## **General Papers**





## **The tense-aspect systems of European languages in a typological perspective**

### **1. General**

According to the original EUROTYP program proposal, Theme Group 6, with the grammatical categories of tense and aspect as its domain, would focus “on the study of grammaticalization processes as manifested in European languages, and on the identification, description and explanation of tendencies peculiar to the tense-aspect systems of European languages”. The following issues were singled out for special attention in the work of the Theme Group: (i) diachronic paths of development; (ii) identification and explanation of areal phenomena; (iii) in-depth studies of individual languages; (iv) language acquisition. Except for the last item, which was planned more as a possible point of contact with other research projects, these issues have all in fact been in focus in the work of our group, something that is hopefully reflected in this volume.

The work of the group relied both on the general tradition of tense-aspect research and on earlier contributions of the group members themselves. I shall comment on these two in turn.

It is natural that the linguistic phenomena traditionally subsumed under the labels “tense” and “aspect” should have attracted the attention of scholars early on, given their salience in the grammars of most natural languages and their intimate relationship with central cognitive categories. Anyone who undertakes a study in this area has to cope with the burden of an enormous tradition. Paradoxically, however, our EUROTYP Theme Group had relatively little previous work to build on, compared to some other groups in the program. The reason is that, whereas there is an abundant literature on the tense-aspect systems of individual languages as well as works of a general theoretical character, more directly typologically oriented research on tense and aspect is relatively scarce, in spite of notable exceptions such as Friedrich (1974), Comrie (1976, 1985), Chung & Timberlake (1985), and Ultan (1978). There are a number of obvious factors behind this scarcity: the predominantly semantic nature of the problems and the difficulty in finding a suitable framework in which different systems can be compared.

Given that several members of the group had considerable research experience within the field, it was hardly to be expected (nor desired) that their theoretical ori-

entation would be totally homogeneous. Seniority being the most objective criterion of order, precedence goes no doubt to Lars Johanson's approach, presented already in his thesis on Turkish aspect (Johanson 1971) and further developed in his contribution to this volume. Since I was given the responsibility to organize the work within the group, it will not be too difficult to discern a bias in the original proposal and the ensuing publications towards the claims made in my earlier work as presented in Dahl (1985), my joint paper with Joan Bybee (Bybee & Dahl 1989), and the methodology used in the investigations behind those publications. Less visible in this volume, although also influential, has also been the Functional Grammar of Simon Dik, the late EUROTYPE Chairman. Naturally, the work within the group also builds on the earlier investigations of tense-aspect systems of individual languages or language families by group members such as Pier Marco Bertinetto (Romance, particularly Italian), Karen Ebert (Germanic, particularly Frisian), Casper de Groot (Hungarian), Eva Hedin (Greek), Jouko Lindstedt (Slavic, particularly Bulgarian), Rolf Thieroff (German), and Hannu Tammola (contrastive studies Finno-Ugric:Slavic).

We defined three "focal areas" for the work within the group: (I) Future Time Reference; (II) The Perfect; (III) The Progressive. The last two focal areas thus had a major "gram type" as defined below as their object of study. The first focal area, on the other hand, looked at grammatical marking in a semantically defined domain. Still, of course, there was a salient "gram type" also in Focal Area I, namely the future. Methodologically, the three areas were organized in similar ways, the central empirical tool being a questionnaire. Within Focal Area I, a relatively large number of descriptive sketches of individual languages were produced.<sup>1</sup>

The rest of this introductory chapter will present, as a general background, an outline of the theoretical assumptions behind my own approach to the typology of tense-aspect systems and some of the typological and areal generalizations that can be made about those systems. In addition, the contents of the volume will be summarized.

## 2. Notes on the methodology of typological investigations

In language typology, methodological issues have been a somewhat neglected area, although lately, questions about language sampling and the use of different kinds of data have become more topical.

In large-scale typological research, the following main types of data are available:

- primary data elicited by questionnaires and similar methods
- primary data from corpora of different kinds
- secondary data in the form of previously existing descriptions of the languages in question

All three methods have their advantages and drawbacks. One extremely important consideration in typological research is cost in the broad sense of the word – cost in terms of money, other material and immaterial resources and, above all, time. Crudely expressed, in order to get anywhere at all, you have to have “quick and dirty” methods of data collection. Both the questionnaire method and the method of collecting data via grammars should be evaluated in this light.

There is really no conflict between the large-scale approach and the in-depth study of individual languages. A large-scale typological investigation necessarily has to be superficial but gives a perspective on the phenomena found in individual languages that you cannot get by looking at them just one by one. Even if most linguists probably agree about this, large-scale typological investigations are still sometimes met with a certain skepticism, especially with regard to the possibility of bias in the heuristics. It is of course true that in some sense you always have to have some idea what you are looking for already in the beginning of a search, and that your expectations will necessarily bias how you interpret data. (Cf. the famous example of the ozone hole at the South Pole, which was initially neglected because the data were filtered away as being too extreme.) A **translation questionnaire**, that is, a questionnaire in which native speakers of a language L are asked to translate expressions from some other language into L, samples a grammatical domain in a way that has to be guided by the investigator’s initial knowledge of the domain. However, the validity of this sampling is not untestable: if the questionnaire, when applied to a language, fails to elicit examples of forms listed in descriptions of that language, it is clear that the questionnaire has to be somehow modified. Conversely, the adequacy of a grammatical description is tested when a questionnaire is applied to the language: if forms turn up that are not listed in the grammar, we know that the grammar is not adequate.

The translation questionnaire method for investigating the use of grammatical and lexical items in languages has one great advantage, which is perhaps not always appreciated, and that, in my opinion, makes up for a number of its drawbacks. It relies on the notion of **translational equivalence**, which has the nice property that it is operationally definable and thus independent of any linguistic theory, preconceived or otherwise. An utterance in a language can be said to be translationally equivalent to an utterance in another languages if the two utterances are both given as responses to the task of translating one and the same utterance in a third language. The assumption is that translational equivalence in a large set of contexts will be a strong indicator of synonymy, but synonymy is a notion which can only be dealt with within a given semantic theory, and there is also no guarantee that there are no disturbing factors in the translation process. Translational equivalence thus means that two expressions are actually translated the same way by informants, not that there is necessarily any deeper relationship between them. The relationship between the notions of translational equivalence and synonymy would be rather similar to that be-

tween acceptability and grammaticality, as these notions are commonly understood in linguistic theory.

Let us look at a concrete (albeit constructed) example. Suppose that we compare a Swedish and a German translation of Shakespeare's works and that we find that the English word *mean* corresponds to either *mena* or *betyda* in Swedish and to either *meinen* or *bedeuten* in German. Suppose further that we find that whenever the Swedish translator uses *mena*, the German uses *meinen*, and whenever the Swedish translator uses *betyda*, the German uses *bedeuten*. We are then entitled to say that with respect to these two corpora, the words *mena* and *meinen* (or *betyda* and *bedeuten*) are translational equivalents. The point here is that we can make this statement without making any claims about the meanings of the words involved. This does not mean, of course, that the fact that the words are translationally equivalent is irrelevant to a description of their meaning; on the contrary, it forms a good point of departure for a further study of them. In a similar way, finding that two grammatical forms are translational equivalents with respect to certain questionnaire material may be highly relevant to the understanding of these forms, but it does not presuppose that we have characterized the meaning of the forms in question in advance. It is thus possible to speak for example of perfects or progressives in different languages on the basis of translational equivalence data without having a theory of the semantics of the perfect or the progressive.

The typologist's dream is to have large tagged multilingual corpora of translated texts in which the distribution of various items could be compared systematically. A corpus-based investigation would have the advantage of eliminating the risk of bias in the material due to theoretical preconceptions. On the other hand, it is of course much more costly. For most languages of the world, the question is not so much how we could create such corpora but rather whether they will be there for us to investigate in a generation or two. Realistically, then, the translation questionnaire method will be with us for some time.

### 3. "The Bybee & Dahl approach"

In the end of the 70's, I initiated a data-oriented investigation of tense-aspect systems in a large number of languages. Using a translation questionnaire of about 160 sentences, we gathered data about 64 languages in what could probably most aptly be called a "convenience sample". At the same time, Joan Bybee (together with Revere Perkins and William Pagliuca) conducted an investigation of verbal morphological categories in a controlled sample of 50 languages, using extant grammatical descriptions as the main source of information. The results from these projects were published simultaneously, in Dahl (1985) and Bybee (1985). In spite of the differences in methodology, the results obtained were strikingly similar. In 1989, Joan Bybee

and I published a joint paper in which we tried to integrate the approaches. Recently, Bybee, Perkins, and Pagliuca have presented their joint work in a monograph (Bybee et al. 1994), which is at present the most complete and up-to-date treatment of tense, aspect and modality in a grammaticalization perspective. Although there are differences in details, and sometimes in emphasis, between the individual works listed here, and between the views of the individual researchers, there is a sufficiently well-developed common core for it to make sense to talk about a “Bybee & Dahl approach”. The interpretation I give in this chapter is my own, however. (Cf. also Chapter 1, “Theoretical Background” in Bybee et al. 1994.)

The B&D approach differs from most other treatments of tense and aspect in that the basic units of description are not “the category of tense” and “the category of aspect” but rather what we call **grams**<sup>2</sup>, i.e., things like Progressive in English, the Passé simple in French etc. Notions like tense, aspect, and mood are seen as ways of characterizing the semantic content of grams, or domains from which their meanings are chosen, but do not, in the typical case, represent structurally significant entities in grammatical systems. Many, if not most, grams combine elements from several domains in their semantics, and it is the rule rather than the exception that grams that would traditionally be treated as belonging to the same category behave very differently with respect to how they are expressed in a language.

The term “gram” is intended to be used on a language-specific level, that is, a gram belongs to the grammar of an individual language rather than to the general theory of human languages. In this volume, we follow the practice introduced in Comrie (1976) and write names of language-specific grammatical items with initial capitals, and this practice applies also to grams. We thus speak, for example, of the English gram Progressive.

An important tenet of the B&D approach, however, is that tense-aspect grams can crosslinguistically be classified into a relatively small set of types. In a universal theory of grammar, then, the relevant unit is the **crosslinguistic gram type**, the manifestations of which at the language-specific level is the individual gram. Such gram types should not be thought of as absolute entities – characters chosen from a universal “gram alphabet” – but rather as the statistically most probable clusterings of properties in “grammatical space”, or alternatively, as relatively stable points along the paths of development that grams take in the course of grammaticalization processes, to be further discussed below. Nor should gram types be identified with “notional” or “semantic categories”. It is true that what keeps the grams of a certain gram type together is primarily their semantics, but it is essential that the gram type is not equal to a notion or concept but is a type of grammatical element, which can also be characterized as to its expressional properties: each gram type has a typical mode of expression, directly related to its position in grammaticalization processes.

Later on in this paper, I will discuss a further notion, that of a **gram family**, which finds its application primarily in areal linguistics. A gram family is basically a set of

language-specific grams that can be hypothesized to have arisen through one and the same historical process – either by being inherited from a common parent language or as a result of language contact. Gram families, then, differ from gram types in having a location in time and space rather than being universally available, as the latter are.

#### 4. Grammaticalization

In the B&D approach, we see the study of the grammaticalization (or grammaticization) processes which give rise to tense-aspect grams as an integral part of the general study of those systems, closely intertwined with and often inseparable from the synchronic description. This is not the place to review the rapidly growing literature on grammaticalization: some recent general works that should be mentioned are Lehmann (1982, 1985), Hopper & Traugott (1993), and Heine, Claudi & Hünnemeyer (1991). I shall instead briefly summarize some of the important properties of grammaticalization processes, as they have been identified in the literature, but from a perspective coloured by my own research experience.

The “classical” definition of grammaticalization is the one given already by Antoine Meillet in 1912, viz. that “grammaticalization” denotes those diachronic processes by which lexical items develop into grammatical items. Such an understanding of the notion may seem too narrow, however. The emergence of fixed word order, for instance, would only be subsumable under grammaticalization when the position of morphemes which are on their way to becoming grammaticalized is concerned. Yet, we would want to see such processes as a unitary phenomenon. A more generous definition of grammaticalization would generalize it to all processes by which grammatical phenomena develop.<sup>3</sup> With respect to the processes that interest us here, namely those that feed tense-aspect systems, the classical understanding of grammaticalization is adequate for the majority of all cases. I shall therefore concentrate my discussion on those.

When a lexical item grammaticalizes, changes affect both its content and its form. There is no unanimity in the literature concerning the nature of the semantic changes that are involved in grammaticalization. According to one popular view, grammaticalization essentially means **semantic bleaching**, that is, the semantic content of the item is partly or wholly lost. Another view emphasizes the role of semantic processes such as metaphor in grammaticalization. A possible synthesis of these might differentiate between the early stages of a grammaticalization process (e.g., the development of full verbs into auxiliaries), which are in many respects rather like lexical semantic change in general, and where metaphor, metonymy and similar processes may play essential roles, and the later stages (e.g., the development of past tenses from perfects), for which terms like semantic bleaching may be more appropriate (Hopper & Traugott 1993, Chapter 4).

Semantic bleaching in general increases the domain of applicability of an item, and thus may lead to an increase in frequency. The same effect may also be the result of another process, namely that of **obligatorization**. The property of being obligatory in certain semantically or syntactically defined contexts is often mentioned as characteristic of grammatical elements. In the area of tense and aspect, we may for instance contrast two kinds of progressives: those with obligatory use, as the English Progressive construction, and those which are normally only optional, as the progressive constructions found in most other Germanic languages (see Ebert's paper "Progressive markers in Germanic languages" in this volume). In many cases, the crucial property is not so much absolute obligatoriness as something that could perhaps be labeled **independence of relevance considerations**, that is, that the use of a certain item is governed by factors other than carrying new and relevant information in the utterance context or not. For instance, past tense morphemes in most European languages may not always be obligatory – there are various uses of the present for past time reference – but they are by and large used irrespective of whether the temporal information they contain is necessary for the intended message or not. In particular, grammaticalized morphemes tend to be used even if they duplicate the information carried by some other element in the sentence (in the case of a tense morpheme, temporal adverbials and the like). In fact, it may sometimes be more difficult to omit a past tense marking when it is in principle redundant than when it is not: the combination of a present tense and a deictic adverbial like *yesterday* is felt as a deviation from the norm.

Both semantic bleaching and the diminished reliance on relevance considerations lead to a general decrease in **communicative motivation** of an item. Thus, when an item is grammaticalized, its content becomes less significant to the communication. As a concrete example of this we may take the development of perfects into pasts. As noted in Dahl (1985: 138), one may postulate a hierarchy of definiteness in temporal reference, such that, ascending it, the probability of using a perfect diminishes. We may distinguish three or perhaps four steps in this hierarchy, with respect to the point in time at which a situation is located: (i) an indefinite time-point in the past, (ii) a time-point located by an overt time adverbial, (iii) a definite time-point presupposed in the context, (iv) a definite time point defined by a narrative context. The communicative motivation for a tense morpheme marking past time reference is arguably less the more easily the time reference is derivable from the context. The hierarchy thus represents a scale of diminishing communicative motivation. The development of a perfect into a past, as it can be witnessed for instance in present-day German, proceeds along this hierarchy, allowing perfect marking for more and more definite time reference.

The connection between grammaticalization and communicative motivation is something that has not always been appreciated fully. One reason may be that there is at least seemingly a conflict between the decrease in communicative motivation



and the functionalist idea that much of language change is motivated by factors having to do with the communicative function of the items involved. In my view, it is obvious that if we are adequately to describe the “functions” of grammatical items, we need a much wider interpretation of “function”. I shall return to this question shortly.

The diachronic perspective makes possible a re-evaluation of the role of prototypes in the semantics of grammatical items. In Dahl (1985), gram types were said to be definable in terms of their semantics, and the different manifestations of a gram type were supposed to share the same prototype. Diachronically, the prototypical uses ought to be the oldest ones, from which the others have developed. To the extent that grammaticalization involves shifts in meaning rather than just ‘semantic bleaching’, that does not exclude the prototype of a gram changing, however. It is reasonable to assume that English *will* no longer shares its prototype with its origin, the Germanic verb *willan* ‘to want’. It is also possible that the processes referred to as ‘semantic bleaching’ also tend to make the prototype less salient. One interesting phenomenon that is best understood in the diachronic perspective is that of what can be called “doughnut grams”<sup>4</sup>, namely grams whose domain has no focus, that is, no prototypical uses. Doughnut grams are in fact quite frequent, and arise naturally in grammaticalization processes whenever two or more grams are generated out of the same source, at differing times. The older gram then has its centre invaded by the younger one, but keeps the periphery for the time being. Typical cases are progressives that develop into imperfectives and then have to yield their old territory to a new progressive formation, resulting in the seemingly paradoxical situation of a progressive having no progressive uses. Doughnut grams are in fact a special case of the more general phenomenon of **residual grams**, that is, grams whose domain has been reduced by the invasion of another gram. Such developments, in which grams lose rather than gain territory, may look like counterexamples to the generalizations of grammaticalization theory, but are only apparently so, in that such losses are the secondary result of some other well-behaved grammaticalization process. However, it is not excluded that such secondary processes may result in shifts of meaning, that is, that what was in the earlier situation a secondary use becomes a primary one. This would appear to be the case for example with subjunctives, which are often residual categories with original indicative meaning.

Probably as a consequence of the semantic or functional changes, grammaticalized items undergo **reduction processes** of various sorts. Equally important, however, is the **loss of autonomy**, which, with a maximally brief characterization, means that what is originally an independent word turns into a modification of another word. ‘Modification’ should be understood here in a very general sense: it may be both **linear**, i.e., expressed by affixation, or **nonlinear**, i.e., by various other processes, such as stem alternations (e.g., ablaut and umlaut) or change in prosodic patterns. In fact, decrease in linearity of expression can be seen as one important factor in



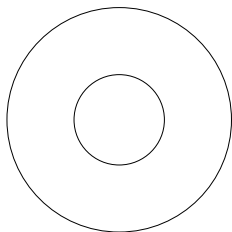


Figure 1. A donut gram

grammaticalization – nonlinear modifications are characteristic of advanced stages of grammaticalization.

An idea that has played an important role in the discussion of grammaticalization is that of its **unidirectionality** (Hopper & Traugott 1993, Chapter 5). It is not exactly clear, however, what the claim that grammaticalization is unidirectional implies, and what would constitute counterevidence to it. It is often taken to mean that there are no processes by which grammatical morphemes develop into lexical ones. This version of the claim is probably untrue but also fairly uninteresting. A more relevant question is whether the individual processes that instantiate grammaticalization are reversible or not. For instance, consider the following statement: “a category can shift from PROG to IPFV or vice versa”.<sup>5</sup> What the unidirectionality hypothesis tells us is that there should be no “vice versa”: imperfectives should not turn into progressives. But this statement again needs qualification.

It should be noted that on the whole, it is very hard to exclude in a principled way a certain historical development, that is, to establish conclusively that a synchronic state A can never be followed by a synchronic state B. In particular, if we are talking about the possibility of reversing a certain process, it is hard to exclude that some combination of processes might lead to what looks like such a reversal. We might imagine, for instance, that an imperfective might end up as a progressive as a result of there being a number of new grams which happen to take over exactly the non-progressive uses of the imperfective. But this still does not mean that we have to postulate an inverse of the progressive → imperfective grammaticalization process in the theory.

A somewhat more troublesome situation is perhaps the following. Suppose there is a language community in which some kind of grammaticalization takes place, e.g., a progressive develops into an imperfective, but in a geographically restricted fashion, resulting in a dialect split, where the gram in question becomes an imperfective in dialect A but remains a progressive in dialect B. Suppose further that due to factors having to do with prestige and other extralinguistic factors, the speakers of dialect A give up most of their dialectal features and adopt what is essentially dialect B. It

seems that in such a situation, the grammaticalization process may be reversed in the sense that the speakers of dialect B stop using the gram in question as an imperfective and revert to the less grammaticalized stage where it is only a progressive.

What this constructed example shows is the borderline between language change and language shift is extremely problematic. On one hand, we could argue that it is not dialect A that is changing, rather, its speakers are shifting to dialect B. On the other hand, it is clear that changes that we would like our theory to account for – clear cases of grammaticalization – also often spread in a rather similar fashion, by speakers adopting forms from neighbouring dialects with high prestige.

There are in fact attested examples of historical developments in which there seems to be a reversal of a grammaticalization process, and which might be accounted for by an explanation of the “sociolinguistic” kind just sketched. In older stages of High German, the perfect auxiliary could be omitted, especially in subordinate clauses, as in the following example:

- (1) German (W. Goethe, *Faust I*, Vorspiel auf dem Theater)  
 Ihr beiden, die ihr mir so oft,  
 In Not und Trübsal, beigestanden, ...  
 ‘Ye two that have so often stood by me  
 In time of need and tribulation ...’ (G. M. Priest’s translation)

In other languages, e.g., Slavic, auxiliary drop (or perhaps rather: copula drop) shows up as one part of the process by which perfects develop into pasts. In Modern German, however, the process has been reversed in the sense that it is in general no longer possible to omit the perfect auxiliary. (Ironically, the principle that the perfect auxiliary may be omitted in subordinate clauses was borrowed in written Swedish, where it has survived and is still operative.)

What we have to conclude, I think, in order to maintain the unidirectionality thesis, is that it has to be seen as operating on a fairly high level of abstraction. We cannot exclude that courses of events that look exactly like the reversal of some grammaticalization process sometimes take place. However, we should still be able to do without such reversed processes as independent constructs in our theory.

Given the prominent place of various kinds of reduction – semantic and phonological – in grammaticalization processes, it is somewhat tempting to view grammaticalization in general as “linguistic attrition”. I think it is important also to emphasize the positive aspects of grammaticalization: that the object of study is the build-up of grammar, with the focus on systems of inflection. Such systems are a widespread – although not universal – feature of human languages, and it is reasonable to assume that we cannot explain their existence only in terms of the wearing-down of lexical material. Rather, we have to assume that inflection serves a function of its own in language. Exactly what that function is remains to be elucidated, like the question of whether we are somehow genetically predisposed to learning inflections.

One issue that has not yet been taken seriously in the study of grammaticalization is whether the items that are subject to grammaticalization processes are really animals of the same kind, in particular, whether a concept like “morpheme” is suitable to cover them all. The concept of a morpheme, a child of structuralism, more or less tacitly presupposes an “item and arrangement” (IA) model of language. Applying the IA model to inflectional morphology is in a way forcing it to look the way it would look if it were just like syntax. In many ways, the two other models discussed in Hockett’s classic paper (1958), “item and process” (IP) and “word and paradigm” (WP) seem more suited for more complex inflectional systems. If this is the case, however, it is a serious challenge for grammaticalization theory to describe how morphemes are integrated into systems which do not really consist of morphemes. I shall return to this somewhat abstract statement in a while and give a more concrete illustration of what I mean.

Bybee et al. make the following statement in the introductory chapter to their book: “We do not take the structuralist position that each language represents a tidy system in which units are defined by the oppositions they enter into and the object of study is the internal system the units are supposed to create. Rather, we consider it more profitable to view languages as composed of substance – both semantic substance and phonetic substance.” (1994: 1). It is of course a little risky to associate very specific positions with a large and heterogeneous movement like that of linguistic structuralism, and it may be debated whether you have to believe in “tidy systems” to be a structuralist. The following points may therefore be seen either as marking categorical differences or just shifts of emphasis between grammaticalization-based theories and traditional structuralist approaches:

- A grammaticalization-based approach will tend to emphasize precisely the substantive similarities – both in expression and in content – between grammatical items in different languages. The system-internal relations that characterize an item will be seen as resulting from its substantive properties rather than the other way round. When subscribing to the Saussurean slogan that there is nothing in language but differences, linguists have had such phenomena in mind as the fact that the meaning of an unmarked member of an opposition depends on the meaning of the marked member. More precisely, the nonuse of a certain obligatory marking signals that the conditions for that marking are not fulfilled. However, it is important to see that in order to determine this effect, we have to formulate those conditions in the first place. In other words, the paradigmatic relations do in fact presuppose the substantive properties of the items that enter into them.
- Grammaticalization processes tend to give rise to situations that do not easily lend themselves to a description in terms of binary oppositions. Thus, grams tend to expand from a point of origin in a wave-like fashion, (metaphorically speaking) chasing each other along a path of development. If one can talk of an “opposition” between an older and a younger gram on the same path, it is rather a secondary

effect of the relative positions of the grams. Indeed, due to the multidimensionality of the grammaticalization process, it may not be possible to establish a systematic semantic difference between two such grams.

- Like other work inspired by prototype theory, this approach rejects the idea of “invariant meanings” and does not postulate a sharp borderline between conventional and contextual interpretations.

## 5. Grammaticalization clines

Grams show gradualness both synchronically and diachronically. Synchronically, the use of a gram tends to be obligatory in the central (prototypical, focal) uses and optional in the peripheral ones, with sinking propensity of use as we go outwards. We can then talk about **grammaticalization clines**, that is, ordered sets of contexts along which the frequency of grams decreases monotonically. Good examples of such clines are the Romance de-andative future constructions, discussed in the introduction to Part II of this volume. Such clines may of course involve several dimensions, and most probably do in the majority of cases.

Diachronically, the propensity to use a gram in a given context also rises gradually. But we also have to include the geographical point of view here. Since linguistic changes of the kind exemplified by grammaticalization tend to spread outwards from a centre of innovation, the propensity to use a gram in a certain context will decrease as we move away from that point. Reducing grammatical space and real space to one dimension each, we may display a theoretical model of a grammaticalization cline as in Figure 2. In real life, the slopes will probably be less smooth. Still, we could take the graph to be an idealized model of, for instance, the use of the *Passato Prossimo* in Italian, as described by Squartini & Bertinetto in their paper in Part III of this volume.

## 6. Gram types in tense-aspect systems

Figure 3 shows the major gram types that tend to show up in tense-aspect systems and the most common grammaticalization paths that connect them.

I have divided the gram types into **core gram types** and **peripheral gram types**, depending on their typical degree of grammaticalization. The core gram types are those that as a rule have morphological (mainly inflectional) modes of expression, and which are also in general characterized by being more or less obligatory in their central uses. The peripheral ones are predominantly expressed periphrastically.

The most common inflectional tense-aspect gram types in the world's languages are imperfective, perfective, past and future. Indeed, it is rather hard to find an inflectional tense-aspect system that lacks all four of them. Of these, the first three

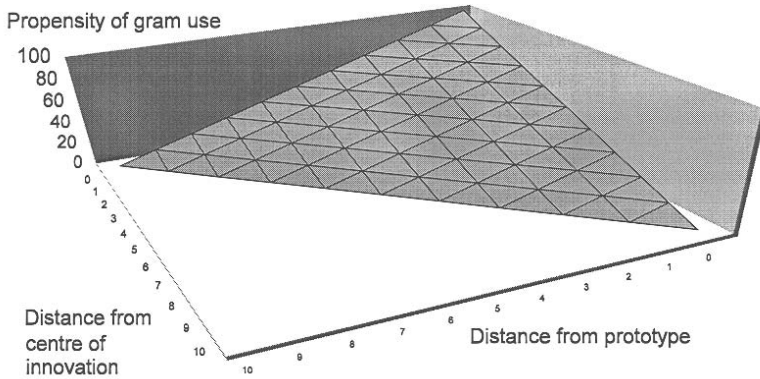


Figure 2. A grammaticalization cline

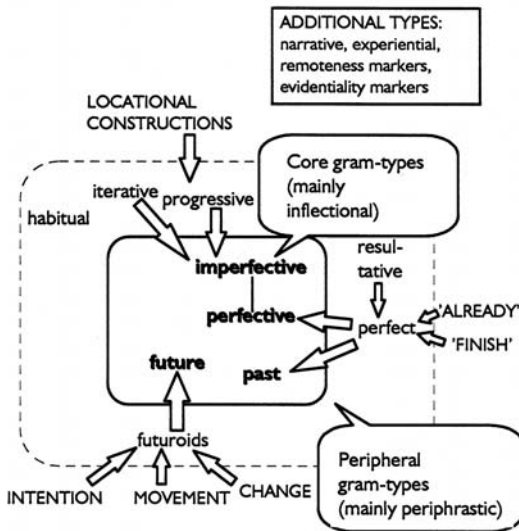


Figure 3. Major tense-aspect gram types

definitely have predominant inflectional marking; the future is a bit more questionable in this regard. The imperfective and perfective are problematic in other respects, which we now turn to.

In most tense-aspect gram types, the marking relations are fairly clear. We have auxiliaries, particles, and affixes marking for example progressive constructions or forms, but there are no morphemes marking nonprogressivity. When it comes to

perfectivity and imperfectivity, on the other hand, we find both perfective and imperfective markers. In structuralist terms, we cannot identify one of the members of the opposition as the unmarked one. Moreover, perfective and imperfective verb forms tend to be distinguished from each other by rather more complex devices than many other items in morphology. In languages from all over the world, we find that morphological processes such as ablaut, consonant gradation, reduplication, infixes etc. are used to create stem alternations between perfective and imperfective forms to an extent not found anywhere else in tense-aspect systems. Also, there is often a considerable amount of lexical idiosyncrasy: you cannot predict from one verb to another how the opposition is going to be realized.

In view of all this, I shall introduce a new term for the grammatical entity represented by the distinction between perfective and imperfective: I shall label it a **hypergram type**, more specifically the perfectivity hypergram type, since it appears to be one level higher than the gram types we are talking of in other places in this book, and may in specific languages be realized as grams of different types. We might of course keep the structuralist term “opposition”, but this might give the wrong associations.

The interaction between aspectual and temporal elements in the semantics of the core gram types has far-reaching consequences for tense-aspect systems in general. More specifically, there is a coupling between notional perfectivity and past time reference, and notional imperfectivity and present time reference, in the following sense. States and on-going processes are most naturally thought of as holding at or going on at a specific point in time, at which they can be observed. This point in time will, in the default case, be the time of speaking. Completed events, on the other hand, are typically referred to after being completed. States and on-going processes, then, are connected with present time reference, while completed events are connected with past time reference. This connection shows up in tense-aspect systems in several ways:

- Many systems (most of them outside Europe) treat different types of verbs in opposite ways: a zero-marked verb form is interpreted as having present time reference if it is stative and as having past time reference if it is dynamic.
- In languages with a distinction between perfective and imperfective verb forms – regardless of the marking relations between them – the perfective forms are in the majority of all cases restricted to past time reference, at least when appearing in asserted main clauses.
- In those languages that in addition to the perfectivity hypergram also have a past, it is often (probably in the majority of all such languages) restricted to the imperfective, that is, it is what was called a PASTi in Dahl (1985) and a Past Imperfective in Bybee et al. (1994). In such a case, we get what is called a tripartite system in Bybee & Dahl (1989), which is found in a relatively large number of European languages.

Type 0  
(common)

No core categories

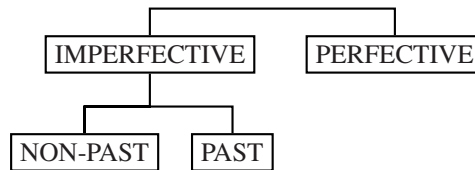
Type 1  
(common)



Type 2  
(common)



Type 3  
(common)



Type 4  
(less common)

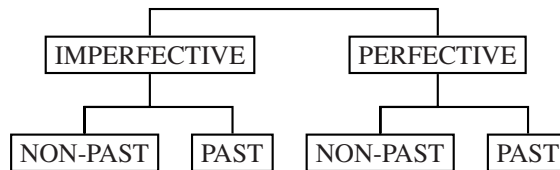


Figure 4. Combinations of core gram types

Figure 4 shows what combinations of the core gram types, perfective, imperfective, and past, are generally found. A number of languages spoken in the eastern part of Europe have tense-aspect systems that seem to fit Type IV systems, said in Figure 4 to be less common. The nature of “Slavic-style aspect”<sup>6</sup> has been discussed in Dahl (1985) and Bybee & Dahl (1989). To sum up the essential points, the system found, e.g., in Russian differs from typologically more common manifestations of perfectivity (i) by being less narrowly tied up with time reference, (ii) by displaying a somewhat different semantics, which seems more closely related to Aktionsart or actionality distinctions, traditionally connected with the inherent semantics of the verb as a lexical item. These properties seem to be connected with the

historical origin of the perfectivity distinctions in question, in that derivational processes and in particular the morphemes called “bounders” in Bybee & Dahl (1989), that is, telicity-inducing verb particles like *up* and *out* in English or prefixes like *voz-* and *vy-* in Russian. It seems that there is reason to argue that the “Slavic-style” systems undergo a grammaticalization process the result of which is that they come closer to the more common perfectivity systems: there is thus a clear difference between Russian and some of the West and South Slavic languages in this regard and an even clearer difference relative to the non-Slavic European languages in which bounders are used as perfectivity markers (Latvian, Lithuanian, Hungarian).

The last gram type treated as belonging to the core, the future, is discussed in detail elsewhere in this volume (Part 2), since it was in the centre of interest of one of the Focal Areas of the group. Actually, it is only the more advanced futures that deserve being lumped together with the core gram types; “younger” futures, that is, less grammaticalized grams that mark future time reference, for which we might coin the label **futuroids**, are better seen as belonging to the periphery of tense-aspect systems.

On the periphery, we also find important gram types such as the progressive, the perfect and the habitual. The first two of these made up Focal Areas II and III of our group and accordingly, Parts 3 and 4 of this volume treat them from different perspectives. Here, it should be noted that the progressive and the perfect feed the core gram types, each from its direction: the progressive is a main source for marked imperfectives, while the perfect gives rise to perfectives and pasts, and in addition, to various other gram types, such as indirectives and hodiernal pasts.

## 7. The areal study of tense-aspect systems

We shall here discuss areal phenomena on two levels, which we shall call the microlevel and the macrolevel respectively.

The microlevel is the one that has been paid most attention in traditional areal linguistics, which centered on the notion of Sprachbund – a set of languages, geographically close but not necessarily genetically related, in which similar grammatical developments can be found. As will be argued in the introduction to Part II of this volume, Sprachbund phenomena are the rule rather than the exception in grammaticalization processes, in that most of these processes tend to spread over several geographically contiguous languages, giving rise to gram families, as defined above. The genetic distance between the members of a pair of languages involved in such a process may vary from one extreme to another – from closely related dialects to totally unrelated languages. It is plausible that the ease with which a process spreads is inversely correlated to this distance, but there is no reason to see influences that



jump the borders between language families as being different in kind rather than just in degree from intrafamilial influences.

Europe is an ideal domain for studying micro-areal phenomena, being of the right size to contain a number of “micro-areas” and having a well-documented linguistic history, making it possible to trace synchronic phenomena backwards. Such studies are right now becoming much easier with the advent of computerized corpora both for older and modern texts, although we have not been able to take advantage of these developments to any greater extent within the EUROTYP program.

While the microlevel of areal typology can be defined as a level where the relations and mutual influences between individual languages are still discernible, the macrolevel concerns tendencies within larger groups of languages which may be up to the size of a continent. Areal phenomena of this kind have become the object of systematic study only recently, one reason for the newly awakened interest being the insight that many of the phenomena studied in typology have an uneven geographical distribution, which may distort the typologist’s results if neglected. Tense-aspect turns out not to be an exception in this regard. Using my own database and that created by Joan Bybee and her collaborators in the GRAMCATS project, I looked at the global distribution of the major gram types. (For a fuller account of the investigation, see Dahl 1995). In Figure 5, the distribution of pasts and perfectives/imperfectives in the GRAMCATS sample is plotted.

If we lump together pasts, past imperfectives and remoteness markings, we can see a clear concentration of those gram types in a few fairly well-delimited areas, the largest one covering the bulk of the western part of the Old World, excluding in particular West Africa. There are also clear concentrations in Australia, New Guinea and some other parts of Oceania, and more scattered occurrences in the Americas. Perfectivity distinctions are more evenly distributed.

A few remarks on the relation between typological samples and areal phenomena are in order here. It can be said that, due to the way it is constructed, a sample like the one presented in Bybee et al. (1994) or the similar but larger sample of Nichols (1992) (which comprises 175 languages) is in fact rather unlikely to do justice to areal phenomena. The choice method makes it improbable that two geographically contiguous languages make it into the same sample. Also, the percentage of languages chosen is very low – the GRAMCATS sample comprises roughly one per cent of the world’s languages, which means that each language in the sample is proxy for about one hundred languages. Any grouping that you can discern and that is large enough not to be due to chance will thus comprise several hundred languages. The conclusion is that no areal phenomenon that covers a smaller number of languages can be detected in this way, which, among other things, means that Europe (with its 175 languages) is not really a possible candidate for an area here. On the other hand, it is under these circumstances all the more remarkable that the areal patterns seen in Figure 5 are so clear. A further conclusion to be drawn, then, is that areal influence

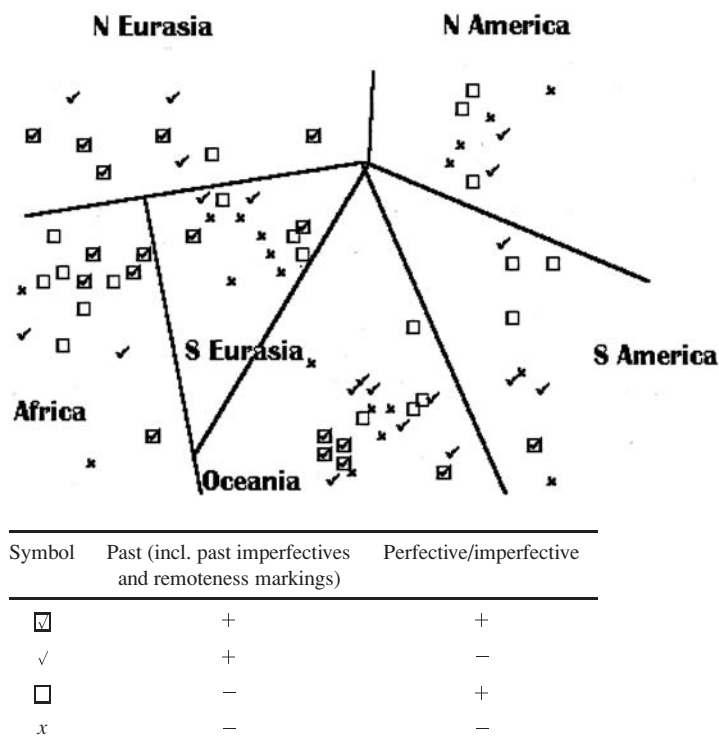


Figure 5. Distribution of pasts and perfectives/imperfectives in the GRAMCATS sample

with regard to tense and aspect is strong on both the micro and the macro levels. Future research will hopefully make it possible to integrate the study of the two levels, that is, see how individual grammaticalization processes are related to larger-scale tendencies.

## 8. Europe vs. the rest of the world

As we noted already, Europe is really too small to come out as an area of its own in a sample like the one used in the GRAMCATS project. It is here that the European bias of Dahl's 1985 sample turns into something of an advantage, in that Europe is covered well enough in that sample for it to be possible to contrast it with the rest of the world. We also refer to Thieroff's contribution to this volume.

For areal generalizations, it appears most suitable to delimit Europe in the more traditional way where it does not include the Caucasus, since the languages spoken

in that area are quite different in a number of respects. With regard to what we called major TMA gram types above, there are some quite clear tendencies within the European area:

- All of Europe, including the Caucasus, belongs to the area in Northern Eurasia where pasts are found overwhelmingly according to the data available.
- We can discern an area in Northern Europe where there are no grammaticalized perfectivity distinctions. This area includes the Germanic and the northern Finno-Ugrian languages. If we look for perfectives and imperfectives of the typologically most common type (as described in Section 7 above), we notice that most of the Slavic and Baltic languages lack this gram type. Instead we find various varieties of what I labelled “Slavic-style aspect” above in this area.
- Furthermore, there is another negatively defined area in Northern Europe, partly overlapping with the previous one, viz. the one where there is no grammaticalized future (see Dahl’s introduction to Part II of this volume), comprising the Germanic languages (except English), the Finno-Ugrian languages, and at least the older stages of the Slavic languages.
- With respect to the peripheral gram types, we note the high frequency of perfects, especially of the *habeo* type, that is, perfects derived from a construction involving a transitive verb for possession. This type is hardly documented at all outside Europe. (For further discussion, see the papers in Part 3.)
- A particular area which partly falls within Europe is the one where indirectives develop out of perfects/resultatives (see Johanson’s and Lindstedt’s contributions to this volume).
- Fully grammaticalized progressives are not particularly frequent in Europe, with the exception of an “Atlantic” area comprising the Iberian peninsula, the British Isles and Iceland (see the papers in Part 4).

## 9. The structure of this volume

The papers in the volume are organized in five Parts, three of which are devoted to the focal areas of the Theme Group. In addition, there is an introductory section containing papers with a more general orientation and a final section containing two case studies on individual languages.

In addition to the present introductory paper, Part 1, “General papers”, contains four papers. In “Viewpoint operators in European languages”, Lars Johanson applies the theoretical model he originally presented in Johanson (1971) to the description of what he calls **viewpoint operators** in European languages, assumed to constitute the cores of the European tense-aspect (in Johanson’s terms, aspectotemporal) systems. Pier Marco Bertinetto and Denis Delfitto, in “Aspect vs. Actionality: Why they should be kept apart”, discuss the traditional “aspect:Aktionsart”

distinction, using the label “actionality” for the latter. Rolf Thieroff, in “On the areal distribution of tense-aspect categories in Europe”, looks at the areal distribution of tense-aspect categories within Europe, based on a sample of 40 languages. In “The type-referring function of the Imperfective”, Eva Hedin presents an account of the perfective:imperfective distinction based on concepts type reference and token reference, arguing that some uses of the imperfective that are usually seen as exceptional are instead basic.

In Part 2, which treats the first focal area, Future Time Reference, the introductory paper by Östen Dahl, “The Grammar of Future Time Reference in European languages” presents the main grammatical means for future time reference marking in the European languages. Eva Hedin discusses the factors that govern the choice between different verb forms in conditional and temporal clauses with future time reference in Modern Greek. A particular phenomenon pertaining to Northern Europe is treated in Östen Dahl’s “Verbs of becoming as future copulas”.

Part 3, “The Perfect”, contains an introduction by Jouko Lindstedt, “The Perfect – Temporal and Aspectual”, which gives a survey of the general characteristics of this crosslinguistic gram type. Current relevance, a key concept in many treatments of the perfect, is discussed in a paper by Östen Dahl and Eva Hedin. Several papers are devoted to the manifestations of the crosslinguistic gram type perfect in individual languages or language groups. The perfect of Old Slavonic has undergone very different developments in the East and West Slavic languages – discussed in Hannu Tammola’s “On the Perfect in North Slavic” – where it has in general developed into a general past tense, and South Slavic, where it is preserved to a larger extent but has acquired an evidential character. A particularly complex picture is offered by Macedonian, treated in Nina Heikkinen’s “Macedonian – a language with three perfects”. Developments similar to those of South Slavic are found in the Finno-Ugric languages Udmurt and Komi, as described by Marja Leinonen and Maria Vilkkumäki in “Past tenses in Permian languages”. The situation in Romance, surveyed by Pier Marco Bertinetto and Mario Squartini in “Romance Perfects”, is different but no less varied.

Part 4, “The Progressive”, is structured in a similar way. A general introduction is given by Pier Marco Bertinetto, Karen Ebert, and Casper de Groot. Surveys of progressives in different areas are given by Hannu Tammola (“Progressive aspect in Baltic Finnic”), Karen Ebert (“Progressive markers in Germanic languages”), and Pier Marco Bertinetto (“The progressive in Romance, as compared with English”). In addition, Casper de Groot surveys the manifestations in a number of European languages of a hitherto neglected phenomenon – “The Absentive”, a construction which is used to indicate that someone is involved in an activity at a place different from the deictic centre.

The two languages whose tense-aspect systems are treated in Part 5, “Case studies”, have in common that they show up in a setting which is rather atypical for their

respective language families. Karaim, as described by Éva Csató in “Some typological features of the viewpoint aspect and tense system in spoken NW Karaim” is a Turkic language spoken in Lithuania, i.e., at a considerable distance from other languages of the same group. Maltese (Karen Ebert: “Aspect in Maltese”) is the only indigenous Semitic language in Europe, and the only descendant of Classical Arabic which uses the Latin alphabet.

## 10. What we have accomplished

In spite of the fact that literally thousands of books and articles have been written about tense and aspect in European languages, our undertaking is unique in that we have tried to put the European tense-aspect systems in a consistent typological and diachronic perspective. In this way, we think we have been able to advance the understanding in particular of the dynamics of those systems, how they develop over time and how this is reflected in the rich patterns of synchronic variation. In addition, we have been able to fill in some blanks on the map, both with regard to some neglected phenomena, such as the absentive, and to some less well-studied languages in different corners of Europe.

## Notes

1. See Appendix 4 for a list of the working papers of the Theme Group.
2. In Dahl (1985), the term “category” was used in the sense “gram” is used here. The term “gram” was originally coined by William Pagliuca. Whether “gram” should be seen as an abbreviation of “grammatical morpheme” or not, is perhaps a matter of taste; personally I find that one has to stretch the meaning of ‘morpheme’ a bit too much to do that.
3. One problem here is that “grammaticalization” may not be the best term for this more general notion. I have myself considered trying to propagate “grammatogeny”, but as long as this has not gained general acceptance it may be wiser to keep to the old “grammaticalization” even if we use it in a wider sense.
4. The doughnut metaphor was first used in print by Kemmer (1993).
5. The source of this quotation is Dahl (1985: 93).
6. The label “Slavic-style” is unfortunate in that it implies that all Slavic systems look the same. “North Slavic” would be a more adequate label.

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## Viewpoint operators in European languages

### 1. Introduction

#### 1.1. Purposes

The present contribution is a survey of *viewpoint operators* in European languages. These operators are conceived of as representing different concepts of *terminality* and operating on different *actional contents* in order to produce meanings within the semantic space of *aspectotemporality*. It is assumed that they constitute the cores of the European aspectotemporal systems and that it is possible to establish, by generalization from semantic values signalled by the language-specific categories concerned, a restricted set of basic crosslinguistic distinctions sufficient to determine these cores.

It is the intent of this study to present a model for differentiated interlingual comparison in viewpoint dimensions, the main questions being how certain basic categories within the aspectual-actional-temporal field are interrelated and by virtue of what values they contribute to aspectotemporal meanings in different languages. Looking at these questions in a way rather different from traditional approaches, I hope to be able to detect essential regularities in the interaction of linguistic values, to understand major similarities and differences between aspectotemporal systems, and to discriminate between certain properties covered by general typological terms such as “perfective” (PFV), “imperfective” (IPFV), “progressive” (PROG) and “perfect” (PF). The approach is in many respects compatible with the semantic tradition represented by Comrie (1976), though it tries to put more accent on properties of formal coding and on system comparison. While differing from genuinely substantialist proposals (Section 3.2), the study also aims at relating the findings to certain results of more ontologically oriented research in aspectology. The foundations of the model were laid in Johanson (1971), a study of Turkish “verbal aspect” in comparison with similar categories of other languages with special attention to the problem of finding a suitable framework in which aspectotemporal systems can be studied from a typological point of view.

The present survey is limited to viewpoint characterization of events as expressed by predications based on finite verb forms, disregarding similar notions represented in non-finite items such as converbs and participles. Rather than dealing with a

handful of well-known representatives of “Standard Average European”, it aims at covering Europe in a broad geographical sense. On the other hand, it does not go into greater detail, does not take dialectal and social variation into account and largely disregards categories outside the core systems. As European aspectotemporal systems are the best studied in the world, there is abundant material available for comparison. The survey is based on extensive materials, data from grammatical studies of different kinds, my own text analyses, and questionnaires testing the use of categories in certain types of situations. However, it cites a limited number of examples – as far as possible condensed to subjectless forms of the third person singular – and gives relatively few explicit references to individual contributions. Existent descriptions are not always quoted in the traditional grammatical or typological terminology they are couched in. If my interpretations deviate from those offered in some of the sources, the reason is that my questions require partly different answers, since the goal lies beyond the scope of language-specific grammar, in an integrated theory of aspectotemporality. The sole purpose of the discussion is to sketch a general framework in which detailed typological descriptive work can be carried out. As this framework is also meant to elucidate how aspectotemporal structures come to function the way they do, the present paper should also be seen as a contribution to a typology of grammatical change.

A well-known problem resides in traditional terminological practices, according to which both viewpoint and actional categories represent “verbal aspect” in some sense. It is the contention of the present study that the two types do not represent semantic distinctions of the same kind. Without engaging in nonsensical discussions of “what aspect is” – as if a term should be protected from heretic definitions – it might be claimed that more precise and less iridescent terms are needed to distinguish viewpoint categories from the actional contents they operate on. In the following discussion, however, viewpoint categories will frequently be referred to by the simple term “aspect”, rather than by the tautological expression “viewpoint aspect” introduced in Smith (1991). While not incompatible with pre-Slavistic aspectual theory, this use of “aspect” is partly at variance with the Slavistic tradition. Given the long-standing privilege of Slavistics to define “verbal aspect”, it may, for example, seem provocative to deal, as I shall venture to do here, with the Bulgarian perfective vs. imperfective duality as an actional rather than an aspectual opposition.

## 1.2. Three dimensions of aspectual terminality

To begin with, it might be useful to comment briefly on certain key notions, which will then be discussed at length in the relevant sections. The basic assumption is that a limited set of distinctions is needed to describe the aspectotemporal cores of

European languages. The material available contains a great number of verbal categories representing different ways of conceptualizing and envisaging events in three dimensions of aspectual terminality. The distinctions are based on the following three notions:

*Intraterminality*, envisaging the event within its limits, *intra terminos*.

*Postterminality*, envisaging the event after the transgression of its relevant limit, *post terminum*.

*Adterminality*, envisaging the event in the attainment of its relevant limit, *ad terminum*.

Preliminary examples of these notions are Irish *bhí ag scríobh* ‘was writing’ (intraterminal), Albanian *ka shkruar* ‘has written’ (postterminal), and Czech *napsal* ‘wrote, has written, had written’ (adterminal). There is affinity, though by no means identity, between the three terminality notions and the categories “imperfective” (IPFV), “perfect” (PF), “perfective” (PFV) in current typological work on verbal aspect. The notion of *relevant limit* will be discussed in Section 5.

Aspects pertaining to the three dimensions impose different perspectives on events as described by predications. They do not describe an actional content as such, but express how it is conceptualized as occurrence (or negated occurrence). An *event*, abbreviated E, is an action conceived of as something being or becoming the case in some world. The term is thus used in a broad sense for a realized portion of an action. It includes both *transitional* events, which change situations, and non-transitional events, which do not. In many modern studies, the term “event” is restricted to the former category. A non-transitional event characterized by internal dynamics will be referred to as a *processual* one. The terms “state of affairs” and “situation” will be avoided, since they are too easily understood as a general situation described in a text.

An event has three main internal phases: a beginning (first limit, *terminus initialis*, *initium*), a course (*cursus*) and an end (second limit, *terminus finalis*, *finis*). A global event consists of one or more single basic events. A *basic event* may thus be a subevent of a global one. A *global event* may, even if it consists of a set of subevents, be uni-occasional, taking place on one single occasion, at one undivided time interval. A pluri-occasional global event is a set of identical subevents, distributed over several occasions, at clearly separated intervals along the time axis. Thus, in French *écrivait chaque jour* ‘wrote every day’, the aspect, an intraterminal viewpoint operator, characterizes a pluri-occasional global event consisting of a set of basic events.

Aspects are relational in the sense that they present events by relating their limits to some point of view, an *orientation point*, abbreviated O. Expressed in localistic terms, such points of view can be situated inside or outside the global event. The viewpoint notions are, however, not defined in dependence of time reference or of

an identifiable O. Aspects invite the decoder to try to identify a contextually relevant point of time as O, but they do not involve any built-in orientation point.

### 1.3. General framework

Before proceeding to the realizations of viewpoint notions, let me briefly indicate their position in a more comprehensive framework. Aspectotemporality is conceived of as a pluri-dimensional space of linguistic concepts comprising aspect, actionality, and temporality. It is a complex phenomenon, realized by interaction of morphosyntax, lexical semantics and pragmatics. Its parameters are subject to considerable variation, the specific contributions varying across individual systems and thus not being universally predictable. However, it is my claim that an adequate description of the interaction of a rather limited number of aspectual, actional and temporal categories will capture the essence of aspectotemporality in European languages.

Viewpoint categories represent terminality notions that mirror basic human ways of perceiving and processing events. They interact semantically with those elements of the predication that express the kind of action concerned. I claim that viewpoint operators operate on actional contents and determine them aspectually. This means that viewpoint and actionality parameters interact to the effect that the meanings of the resulting items are interpreted in terms of the scope of the former parameters over the latter. Actionality represents distinctions concerning the inherent phase structure of predications. Items specifying the actional content have no aspectually determining force by themselves. On the other hand, they may develop diachronically into viewpoint operators. Thus, though aspect and actionality tend to be intertwined and closely allied, they are taken here to represent separate, logically independent features, rather than two cognitively identical parameters, two ways of expressing the same semantic distinctions. I do not assume a “semantic domain of aspectuality” that receives either lexical or grammatical expression. The main function of viewpoint operators is not to select phases present in the meanings of lexemes.

The interpretation of an aspectually characterized predication involves different elements of taxis and is also dependent on the contribution of contextual elements such as different time adverbials. A further characterization common to European languages is temporal determination by means of grammatical tenses. The ultimate interpretation of aspectotemporality is heavily dependent on pragmatic needs, notably on requirements of the thematic context. In the present survey, however, the main interest will be directed towards determining the semantic contribution of viewpoint operators to the global interpretation of a predication. Their eminent semantic and syntactic functions at the clause-combining level cannot be dealt with here, since this task also requires that predications based on non-finite items be taken into consideration.

## 2. Viewpoint operators

### 2.1. Characteristics of viewpoint categories

As has been stressed above, the difference between the operators and their operands, the objects of aspectual perspectivization, is basic to my approach. The distinction between viewpoint values and internal phase structure meanings inherent in actional content enables us to observe and understand their systematic interactions, affinities, and roles in forming central aspectotemporal systems, and the diachronic shifts among them. It was argued in Johanson (1971) that their interactional meanings are unintelligible unless they are taken to belong to different semantic levels. Seiler accepts these considerations as “arguments décisifs” (1993: 24). Similarly, Bertinetto & Delfitto (this volume) stress the theoretical need to separate aspectual and actional content in order to grasp the intricate interplay of notions belonging to different conceptual domains. The task of aspect is thus not to transfer phase structures to actional contents that lack them as inherent properties. The fact that some phase structures prefer or avoid certain viewpoint operators is a matter of semantic *fertility* and *infertility* of the combinations in question and does not prove any equality of actional and aspectual meanings.

Viewpoint operators offer different choices for envisaging and presenting events as such, for opening perspectives on them and their internal phase structure, for viewing them in relation to their limits. They cannot specify the kind of event described, contribute to its definition, express ontological characteristics, or change the actional content they are chosen to operate on. What is conceived of as one and the same event is presented in different dimensions of terminality. The actional content is left intact and remains identical under different aspects, different ways of *viewing* the internal constituency of an event (cf. Comrie 1976: 3). Phases not highlighted by ad-, intra- or postterminality are only *latent*, “concealed”, but not necessarily left unrealized in an objective sense.

The traditional description of actionality and aspect as “objective” vs. “subjective” is misleading. Even the choice of the actional content relies upon the encoder’s conceptualization of the event and does not reflect the real world objectively. Events can be presented in subjective ways by actional categories as well. On the other hand, the choice of viewpoint operators is not subjective in terms of expressing the encoder’s attitude or being primarily subject to stylistic aims. The optionality of aspectual choice is often misunderstood. If the viewpoint is determined by context and situation, the view cannot be totally free: there may then be one natural choice only. The operators are used in various discourse types to present events as related to each other and to certain occasions, as successive or overlapping, as cursus- or limit-oriented, etc. The restrictions found in coherent narratives are rather systematic and rather similar in different European languages. As is well known, there is usually

more freedom of choice if the event is presented as being isolated from a setting, without direct connection to other events. However, claiming that the aspect choice is not independent of what kind of situation is referred to is not equal to maintaining that aspectual meanings are directly related to extralinguistic reality. Aspects do not signal that events themselves have properties that can be described as “imperfective”, “intraterminal”, etc. Objectivism in this sense is as erroneous as the subjectivism it reacts against. It is necessary to find a viable path between the two extreme simplistic positions, the Scylla of “subjectivism” and the Charybdis of “realism”.

## 2.2. Viewpoint markers and values

Viewpoint operators are expressed by viewpoint markers. Most markers are combined aspectotemporal markers that determine events with respect to both aspectual and temporal coordinates (Section 2.3). The following types of expression may be discerned with respect to interaction with actionality categories:

(i) A given viewpoint operator may have a *special marker*. This type, represented by the French Imparfait *écrivait* ‘wrote, was writing’, produces clear-cut form-meaning correspondences with respect to interaction with actionality categories.

(ii) A *combined (portmanteau) marker* may combine a viewpoint operator with a meaning component of actionality, thus expressing a certain interactional meaning. Two features that behave independently in one language may be fused in another language. Seen from the viewpoint of the latter, the fusion may look like a single feature. This morphological fusion of two categories, represented by the Russian perfective Past *napisal* ‘wrote’, produces indistinct form-meaning correspondences.

Where no morphosyntactic viewpoint marker is available, there is of course no form-meaning correspondence and no systematic way of conveying a viewpoint content.

Adterminality (+AD), intraterminality (+INTRA) and postterminality (+POST) will be dealt with as three different semantic values that aspect items may be marked for, if they enter into corresponding language-specific oppositions based on the features  $\pm$ AD,  $\pm$ INTRA and  $\pm$ POST. The following conceptual and terminological distinctions are needed for the marked and unmarked categories:

intraterminality vs. nonintraterminality  
 postterminality vs. nonpostterminality  
 adterminality vs. nonadterminality

Compared with the traditional system going back to the Stoa, +INTRA and +POST items might be said to correspond to the so-called “definite tenses” (*xrónoi horisménoi*). +INTRA items are basically “paratatic” (*paratatikoí*) and +POST items

“syntelic” (*syntelikoi*), whereas –INTRA and –POST items broadly correspond to the so-called “indefinite tenses” (*xrónoi aóristoi*); see Pohlenz (1959: 45–46).

Cooccurrence and competition of items is the basis for the formal coding of values within the oppositions and thus for the comparison of systems. Marked members of the oppositions are items with the values intraterminality (+INTRA), postterminality (+POST), and adterminality (+AD), implying the positive notion. Unmarked members are items with the values nonintraterminality (–INTRA), nonpostterminality (–POST), and nonadterminality (–AD), implying *negation* of, or *neutrality* towards, the positive notion on a common basis of comparison (Johanson 1971: 32–34). Items that are not members of such oppositions are indifferent to the values in question. However, an item may also be naturally characterized by a certain value though lacking a competing item in the same temporal stratum (Sections 2.3, 2.4). This kind of neutralization will be marked with the sign °, e.g., +INTRA°, +POST°.

Viewpoint values serve as ingredients in processes of semantic composition, representing notions on the basis of which complex values are created. Note, however, that they are not conceived of as freely combinable minimal semantic building blocks. A notional system consisting of three oppositions involving three possible values each as basic parameters would indeed be overgenerating. The definitions of the values are generalizations based on different distinctions that may be empirically recognized in existing European languages. The interrelations of the values and the constraints on their combinability will be empirically determined and discussed below. Particular attention will be paid to the pitfalls of naive compositional morpheme-by-morpheme analysis (cf. Johanson 1974a).

Numerous European languages are equipped with both ±INTRA and ±POST categories, e.g., Romance, Turkic, Iranian, Modern Greek, Bulgarian, Albanian, Caucasian, eastern Finno-Ugrian. ±POST categories are also present in several Germanic and western Finno-Ugrian languages, etc. On the other hand, ±AD categories are only found in certain Slavic languages such as Russian, Polish, and Czech. The following examples demonstrate some possibilities of characterizing a past event expressed by a verb with the lexical meaning ‘write’. (Note that all items have complex values that are not fully specified here.)

+INTRA	items marked for intraterminality, e.g., Armenian <i>grum ēr</i> , English <i>was writing</i>
–INTRA	items opposed to intraterminality, e.g., Latin <i>scripsit</i>
+POST	items marked for postterminality, e.g., Norwegian <i>har skrevet</i> , Finnish <i>on kirjoittanut</i> , Komi <i>gižöma</i>
–POST	items opposed to postterminality, e.g., Norwegian <i>skrev</i> , Finnish <i>kirjoitti</i> , Lithuanian <i>rašė</i> , Latvian <i>rakstīja</i> , Komi <i>gizis</i>
+AD	items marked for adterminality, e.g., Russian <i>napisal</i>
–AD	items opposed to adterminality, e.g., Russian <i>pisal</i>

## 2.3. Viewpoint and tense

Aspectual and temporal meanings may coexist in one and the same item. The analysis of aspectotemporal relations that will be proposed here differs considerably from certain temporalist approaches which first establish “tenses” in Reichenbach’s sense and then try to explain the unexplicable rest of the system in terms of some “aspectual” concept. The results of such analyses often seem to allege unmotivated differences in parts of the core systems where European languages are indeed astonishingly similar. The analysis suggested in the present paper takes the viewpoint perspectives to be primary forms of perceiving and envisaging events, and their temporalization to be a secondary step. Tense has no natural priority over viewpoint, temporalization being just one possible way of determining events. Viewpoint notions generally seem to be older than temporal ones, and some systems, e.g., those of Romance creoles, function entirely on non-temporalized viewpoint distinctions. My analysis is based on the contention that contemporary European languages give precedence to aspectual relations over temporal ones, the so-called tenses being the result of determination of aspectual values in different temporal strata. Thus, what a tense situates on the time-axis is the *perspective on the event* rather than the event itself (Johanson 1994).

The temporal order relation of *anteriority* holds between two points of time. One of them is the orientation point O, a primary or secondary *deictic centre*, typically referred to by adverbials such as English *just*. The second point is the *localization point* L. The anteriority relation implies that L – but not necessarily the whole event as such – is prior to O. Temporal and aspectual values combine in hierarchic structures, in which one value has scope over the other. Such structures will be represented by means of bracketing, e.g., +PAST (–INTRA) Italian *scrisse* ‘wrote’, –PAST (+POST) Lithuanian *yra parašęs* ‘has written’, +PAST (–AD) Belarusian *pisaŭ* ‘wrote, was writing’.

### 2.3.1. Orientation

The primary O, abbreviated O<sup>s</sup> (where S = ‘speech act’) is the *primary deictic centre*, the “present world” or “nunc”, the core of which is the moment of encoding. In general, O will by default be interpreted as O<sup>s</sup>, if there are no contextual indications to the contrary. Relatedness to O<sup>s</sup> will be referred to as *primary orientation*. Primarily oriented anteriority implies that L is temporally situated before O<sup>s</sup> (“absolute past reference”) and thus indicates the situation of the encoder in relation to L. Primarily oriented anteriority and nonanteriority are typically, though not exclusively, expressed by explicit ±PAST distinctions. The temporal notion involved has scope over the whole predication and situates aspectual and other perspectives on the event expressed.



The value +PAST signals remoteness in the sense of dissociation of L from the deictic centre  $O^s$ , e.g., *wrote, was writing, had written*. Many +PAST items may even express non-temporal remoteness in a counterfactual sense (Johanson 1971: 51–52). +PAST items that are not intraterminal and operate on transformative actional contents may also be used to express a fictive accomplishment of an event, e.g., Modern Greek *éfigha*, Albanian *ika*, Turkish *gittim*, Hungarian *már el is mentem* ('I have already gone' =) 'I am going now'.

–PAST implies that no temporal order between  $O^s$  and an L is signalled, which does not, however, mean temporal indifference. Present tenses are typically unmarked nonanterior. In many languages, absence of the normal +PAST marker, e.g., Turkish *idi*, Kalmyk *bilä*, Maltese *kien* 'was', is understood as –PAST by default. Primary orientation produces present time readings. –PAST can also have future time reference, "futate meaning", often with contextual support of a future time expression, e.g., German *ruft morgen an* 'will call tomorrow'. Such uses convey relatively strong certainty regarding the actual occurrence, for example, according to some schedule, without the modal shades of meaning often present in prospective items (see below).

If the time established by the –PAST tense is  $O^s$ , the given aspectual perspective is presented as valid at this point. The event referred to may be envisaged intraterminally, postterminally, or adterminally:

- PAST (+INTRA°) "intraterminal-in-present" (with present time reference), e.g., French *écrit* 'writes, is writing'
- PAST (+POST) "postterminal-in-present" (with past time reference), e.g., English *has written*
- PAST (+AD) "adterminal-in-present" (with future time reference), e.g., Russian *napiset* 'will write'

Temporal relatedness to a secondary deictic centre,  $O^2$ , will be referred to as *secondary orientation*.  $O^2$  is a contextually relevant temporal point, independent of  $O^s$ , subjectively chosen or conditioned by the topic ("topic time", deictic centre of the "text world"), usually localizable by means of time expressions or dependent taxis, i.e. relatedness to other events denoted (Jakobson 1957: 8). It is established by any given item subject to linear successivity. If it is conceived of as a time axis situated in the past ("tunc"), it coincides with the localization point:  $L = O^2$ . The anteriority relation establishes a secondary point of view, at which viewpoint perspectives may be presented as valid. The three main aspects may thus be projected into the past as follows:

- +PAST (+INTRA) "intraterminal-in-past", e.g., French *écrivait* 'was writing'
- +PAST (+POST°) "postterminal-in-past", e.g., Modern Greek *exi ghrápsi* 'had written'
- +PAST (+AD) "adterminal-in-past", e.g., Russian *napisal* 'wrote'

European languages differ a great deal from each other with respect to anteriority marking. Many mark +PAST rather strictly, which means a high degree of grammaticalization in the sense of generalization. (Events located prior to  $O^s$  can, however, be referred to by –PAST items as “historical presents”.) Less temporalized systems, particularly at historically earlier stages of development, dispense with marking intra- and postterminals for +PAST. Numerous Indo-European, Finno-Ugrian, Caucasian, Turkic, Mongolian and other languages possessing +PAST items may facultatively employ corresponding –PAST items in past narratives, i.e., use simple intra- and postterminals instead of intra- and postterminals-in-past, e.g., Turkish *öliyor* instead of *öliyordu* ‘was dying’ or *ölmüş* instead of *ölmüştü* ‘had died’. This is, for example, the case in those Slavic languages which have preserved a pluperfect (Maslov 1980: 54, 58–59). There are also reduced systems in which one single item represents the past and pre-past strata. No special +PAST (+POST<sup>o</sup>) item is available, but only one general +POST<sup>o</sup> item that is used to cover the pre-past stratum as well. Thus, the Hungarian item *írt* or the Polish item *napisał* covers the meanings ‘has written / wrote / had written’ etc. by means of one single anteriority marker; cf. Czech *viděl* ‘saw / has seen / had seen’, etc. The Irish Past tense is normally used in a similar way as a general anterior item, e.g., *léigh sé an leabhar* ‘has read / read / had read the book’.

Some languages possess special devices to mark a remote past, e.g., the Kabardian suffix –*ya-*, added to the stem of the Simple Past: *txa-ya-šč* ‘wrote long ago / once’.

Another possible perspective to be mentioned in connection with temporal interpretations is that of *prospectivity*, +PRO. It presents a non-realized event as foreseen (expected, intended, predicted, etc.) at some  $O$ . This projection into the future can be interpreted as relative posteriority (“conceived time”), though many +PRO items have modal (epistemic) shades of meaning, presenting the occurrence as less certain. –PAST (+PRO) items, “prospectives-in-present”, with readings such as ‘shall, will, is supposed to, is expected to write’, are, e.g., Turkish *yazacak*, German *wird schreiben*, Bulgarian *šte čete*. With primary orientation, such items denote events foreseen to take place after  $O^s$ . +PAST (+PRO) items, “prospectives-in-past”, imply that the event is foreseen at an  $O^2$  prior to  $O^s$  (past future, *futurum praeteriti*), e.g., Turkish *yazacaktı*, Modern Greek *tha éghrafe*, Bulgarian *šteše da čete*, Swedish *skulle skriva* ‘would, should, was to, was going to write’. The event may just have been likely to happen at  $O^2$ , or it may be known at  $O^s$  that it has actually taken place.

### 2.3.2. Temporal interpretations of viewpoint categories

Temporal interpretations may also be suggested by aspectual categories. +INTRA and –AD have a natural affinity with present time reference, +POST, +AD, –INTRA to past time reference. Intraterminality may be interpreted as simultaneity, postterminality as anteriority, etc. Thus, in Maltese, the postterminality of the Perfect and

the intraterminality of the Imperfect are interpreted as relative past and non-past reference, respectively (cf. Comrie's discussion of literary Arabic 1976: 78–81).

+PAST (+POST) items, “postterminals-in-past”, relate a postterminal perspective to a past  $L = O^2$  and are thus temporally interpretable in terms of two anteriority relations (“past-in-past”). –PAST (+PRO (+POST)) items, “postterminals-in-future”, imply that an  $O^2$  is foreseen, at which the relevant limit of the event is transgressed, and may thus be interpretable as posteriority + anteriority (*perfectum futuri*), e.g., *will have written*. +PAST (+PRO (+POST)) items, prospective “postterminals-in-past”, imply that, at a past  $O^2$ , a later  $O^3$  is foreseen, at which the relevant limit of the event is transgressed. It may be interpreted to the effect that the  $L$  of an anteriority relation also serves as the  $L$  of a posteriority relation (*perfectum futuri praeteriti*), e.g., Modern Greek *tha íxe ghrápsi* ‘would have written’.

Temporal interpretations of aspects are partly misleading, since the semantic functions are more complex and never strictly temporal (for Turkish, see Johanson 1994). Thus, a –PAST (+POST) item known as PF is not a simple past tense. On the other hand, it may develop diachronically into a general past. Many European languages possess generalized pasts going back to –PAST (+POST) items and used for both primarily and secondarily oriented anteriority, e.g., Hungarian *írt*, Maltese *kiteb* ‘has written, wrote’. A common meaning of such anteriors is that at least the relevant limit of the event is anterior to  $O$ .

The following discussions of viewpoint categories will focus on +PAST and –PAST items and largely disregard prospective items. With respect to the localization of events, three temporal reference strata will be assumed: a present (non-past) stratum, a simple past stratum, and a pre-past stratum. Among competing items in the simple past stratum are +PAST items such as *wrote* and *was writing*, but also primarily oriented –PAST (+POST) items such as *has written*. Items covering the present and pre-past strata are, due to lack of competition, mostly +INTRA<sup>0</sup> and +POST<sup>0</sup> items.

## 2.4. Combination of values

Combinations of values will be given in hierarchical notations which indicate the scope that the values have over each other. The formulae do not indicate indifference to values of other items. Examples:

+PAST (+INTRA)	items marked for anteriority and intraterminality, e.g., Turkish <i>yazıyordu</i> ‘wrote, was writing’.
–PAST (+INTRA <sup>0</sup> )	nonanterior, naturally intraterminal items lacking competing items in the same temporal stratum, e.g., French <i>écrit</i> ‘writes, is writing’.

+PAST (+POST <sup>o</sup> )	naturally postterminal items marked for anteriority and lacking competing items in the same temporal stratum, e.g., German <i>hatte geschrieben</i> ‘had written’.
+PAST (–POST (–INTRA))	nonpostterminal, nonintraterminal items marked for anteriority, e.g., English <i>wrote</i> .
–PAST (+POST (–INTRA))	nonanterior items marked for postterminality and competing with an intraterminal in the same temporal stratum, e.g., Armenian <i>grel ē</i> ‘has written’.

## 2.5. Degrees of focality

Another concept needed in order to capture the main distinctions observed within the aspectotemporal field is focality, of which intra- and postterminals may display higher or lower degrees. Both categories originate in the narrow “nunc” perspective of the primary deictic O<sup>s</sup>, the common starting point of aspectotemporal developments (Johanson 1971: chapter 4, 8; 1993). Events that are current or (at least partly) past at O<sup>s</sup> are naturally represented by intra- and postterminals respectively. Analogous perspectives applied at secondary orientation points ontogenetically derive from this primary “nunc” situation.

Now, psychological interest may focus more or less on the situation prevailing at O. Focality is a scalar notion. Intra- and postterminals show higher or lower focality degrees depending on the relative narrowness of the range of vision determined by “nunc”. A rather rough division of the focality scales will suffice for the purposes of the present overview. I shall first distinguish focality (F) from nonfocality (NF), and then assume two degrees, relatively high (HF) vs. relatively low focality (LF). This yields the following subtypes with respect to intra- and postterminal focality:

+INTRA <sup>F</sup>	(+INTRA <sup>HF</sup> : +INTRA <sup>LF</sup> )	: +INTRA <sup>NF</sup>
+POST <sup>F</sup>	(+POST <sup>HF</sup> : +POST <sup>LF</sup> )	: +POST <sup>NF</sup>
+INTRA <sup>HF</sup>	(high-focal intraterminality), e.g., English <i>was writing</i> .	
+INTRA <sup>LF</sup>	(low-focal intraterminality), e.g., French <i>écrivais</i> ‘was writing, wrote’.	
+INTRA <sup>NF</sup>	(nonfocal intraterminality), e.g., Turkish <i>yazardı</i> ‘wrote, would write, used to write’.	
+POST <sup>HF</sup>	(high-focal postterminality), e.g., East Armenian <i>grac ē</i> ‘has written’.	
+POST <sup>LF</sup>	(low-focal postterminality), e.g., Norwegian <i>har skrevet</i> ‘has written’.	
+POST <sup>NF</sup>	(nonfocal postterminality), e.g., South German <i>hat geschrieben</i> ‘has written, wrote’.	

It should be stressed that the definitions given for +INTRA and +POST apply, in their full sense, to focal items only. Nonfocals are atrophic items that do not do full justice

to the original terminal notions but represent them in a weak or diluted way. In a strict sense, we might rather consider them ex-postterminals and ex-intraterminals. Since they are not oppositive items competing with corresponding minus items,  $+INTRA^{NF}$  and  $+POST^{NF}$  items might also be written  $+INTRA^0$  and  $+POST^0$ .

Though the degrees indicated above should not be conceived of as absolute positions,  $+INTRA^{HF}$  roughly corresponds to “progressives”,  $+INTRA^{LF}$  to “continuous” and “habitual” items, and  $+INTRA^{NF}$  to more general items. Similarly,  $+POST^{HF}$  may be said to correspond to “statives” and “resultatives”,  $+POST^{LF}$  to “perfects” and “constatives”, and  $+POST^{NF}$  to more general items. Focal  $+INTRA$  and  $+POST$  items imply “dwelling” in a given intra- or postterminal state. Intra- and postterminal items constantly move on the gliding focality scale: their history is characterized by a successive decrease in focality, defocalization processes.  $+INTRA^{oLF}$  and  $+POST^{oLF}$  items are frequently replaced by former high-focals. There are also language-specific oppositions with respect to the degree of focality,  $\pm FOC$ . Note that if a  $+INTRA$  or  $+POST$  item is high-focal, the corresponding  $-INTRA$  or  $-POST$  item has a broader use than one opposed to a low-focal. A  $+INTRA^{HF}$  and a  $+INTRA^{LF}$  item may fuse into an undifferentiated  $+INTRA^F$  item; a  $+POST^{oHF}$  and a  $+POST^{oLF}$  item may fuse into a  $+POST^F$  item. On the other hand, undifferentiated  $+INTRA^F$  or  $+POST^F$  items may split into high- and low-focals. The high-focals that tend to replace the low-focals are derived items, frequently of an analytical nature.

Focality degrees do not determine whether a given item is more or less “aspectual” or “temporal”. All intra- and postterminals are temporally interpretable viewpoint operators. The scalar nature of focality means that if an intra- or postterminal in language A has a more restricted range of uses than a corresponding item in language B, it may have a higher degree of focality. The functional difference does not necessarily imply that A has a specific feature absent in B, but only that the given common feature is represented to a higher degree in A than in B. Note that covering – being used for – situations that allow characterization by higher focality is not equal to expressing a higher degree. Lower items on the scales often cover ontological situation types represented by higher ones. A lower item in language A may be used for situation types that require a higher item in B. Thus, general presents and pasts such as German *schreibt* and *hat geschrieben* may cover, without being focal themselves, situations requiring an English *is writing* and *has written* respectively. Even within one and the same language, a lower item X may occasionally be used instead of a higher item Y for one and the same situation, without signalling the higher degree.

## 2.6. Actional content

As we have noted, one of the parameters of aspectotemporality is the *actional content*. Interaction with actional categories is crucial for the semantic and pragmatic

realization of viewpoint operators. The event referred to is expressed by a predication, the nominals of which refer to entities and whose predicate core denotes properties of, and relations between, these entities. The predication is assigned an actional content, which concerns the lexical semantics of the predication and includes various qualitative-quantitative properties as objective content restrictions. The actional content will also be referred to as *actionality* and *actional properties*. Actional notions are dealt with in the literature under various headings such as “aspect”, “aspectuality”, “aspectual character”, or “Aktionsart” in the classical sense of “die Art und Weise, wie die Handlung des Verbums vor sich geht” (Brugmann 1904: 493). Note again that, in the present framework, the actional content is not taken to include viewpoint distinctions or to represent “aspectual character” of the kind claimed to “rest ultimately upon the same ontological distinctions” as aspect (Lyons 1977: 706).

The actional parameters most relevant for viewpoint distinctions are those of the *internal phase structure*. Whether explicit (overtly signalled) or implicit (covert), they serve as criteria for dividing *actional phrases* into aspect-sensitive semantic classes (Section 5) and are thus fundamental to a precise understanding of aspectual realizations. Phase structure properties are not, as viewpoint operators, relational in the sense of presenting events in relation to orientation points. They display a good deal of language-specific variation, but also strong crosslinguistic correspondences. As already mentioned, an aspect may be more or less fertile in combination with a given actional content. Aspectoactional combinations will be written with the sign  $\times$ . Thus, the formula  $+PAST (+INTRA) \times [+t]$  denotes ‘intraterminality-in-past operating on an actional phrase of a transformative phase structure’.

Several European languages make systematic use of special *modes of action* expressing phase structure properties. The explicit marking of transformativity and nontransformativity will be referred to as  $+T$ -marking and  $-T$ -marking (Sections 6.3, 6.5). Russian-type perfectives will be dealt with as combined  $+AD$ - and  $+T$ -markers.

## 2.7. Core systems, peripheries, preaspectuals

The systems of viewpoint operators hold central positions in the grammars of European languages. However, formal elements found in the cores frequently also take a productive part in more or less comprehensive peripheral systems of periphrastic constructions. The high expandability of some systems (Turkish, Estonian, etc.) may even cause difficulties in delimiting the basic inventories of regular grammatical items. In spite of such difficulties, it seems necessary to distinguish, in principle, between more central items and more peripheral ones.

One important criterion of aspect grammaticalization is the degree of generalization of the use, often inadequately referred to as the degree of “obligatoriness”.

Relevant questions are whether a given item only applies to certain parts of the lexicon, to what extent it rules out alternative items or can be replaced by other items, etc. Peripheral items have a less generalized use than central ones. For example, several French aspect-like periphrases are still peripheral, preaspectual items outside “la conjugaison française orthodoxe” (Kuryłowicz 1956: 27). Thus, *est en train d’écrire* ‘is writing’ is not yet a full-fledged –PAST (+INTRA<sup>oHF</sup>) item of the core system. The same is true of *vient d’écrire*, *venait d’écrire*, *a été en train d’écrire*, and *avait été en train d’écrire*, corresponding to the English core items –PAST (+POST) ‘has written’, +PAST (+POST) ‘had written’, –PAST (+POST (+INTRA)) ‘has been writing’ and +PAST (+POST (+INTRA)) ‘had been writing’.

Peripheral items often prefer to operate on actional contents of certain types. On the other hand, they may combine with different tense and mood categories. They may be semantically more specific, but even if they express similar notions of terminality as the grammaticalized aspects, they are usually non-oppositional, not taking part in firmly established aspectual oppositions of the kind mentioned. Central, genuine viewpoint items have a highly generalized use, a wider applicability to actional contents, and possess an aspectotemporally determining force, referring exclusively to events, notably global events. Aspectual characterization typically concerns the global event. For example, adterminality does not operate at the subevent level, whereas actional transformativity does.

Since there are diachronic developments leading from peripheral constructions without aspectotemporally determining force to highly grammaticalized viewpoint operators, we may in many cases speak of *preaspectual* items. They do not reach the degree of generalization expected from aspectotenses. When actional concepts are further grammaticalized to express viewpoint, the development typically includes generalization, compatibility with more actional contents. The more limited the applicability of a preaspectual marker is, the longer its way is to the status of a viewpoint operator. For example, certain items originating in completive modes of action pass through limit-specifying stages before becoming +AD operators. Other preaspectual items, cursus-specifying statals and items specifying a posttransformational phase, may develop into high-focal +INTRA and +POST operators. Thus, Turkic postverb constructions converb + auxiliary *tur-* ‘stand’ are confined to certain lexeme types as markers of actionality, but are freely combinable as intraterminals (*-p-tur-a*) and postterminals (*-p tur-ur*), e.g., Nogai *yazıp tura* ‘writes’, Karachai *ǰazıbdı* ‘has written’ (Johanson 1995).

It may be difficult to distinguish a preaspectual stage from an early aspectual stage, for example, when a +T-marker has just become a +AD marker, or while an intraterminal or postterminal is still high-focal (“progressive”, “resultative”). Whereas aspectual characterization typically concerns the global event, there are high-focal intraterminals that also operate on subevents. There are also preaspectual constructions expressing high-focal terminality notions without taking part in aspectual op-



positions, and lexicalizations based on the notions of intra- and postterminality, e.g., English *interesting*, *interested*. In some cases it may even be difficult to distinguish preaspectual stages from stages of subsequent defocalization processes.

## 2.8. Set and non-set events, linear successivity

A few further notions relevant to the use of aspects should be added at this point. First, past items can be interpreted more or less *diagnostically* or *historically*, as focusing the attention more on the O (orientation point) or on the L (localization point) of the temporal relation. A central discourse function of historical items is to carry the main row of events in narratives subject to linear successivity. Historical-diagnostic items represent both the event as related to L and its validity at O.

In the historical dimension, an event can be presented as more or less *set*, occurring in a particular setting, or *non-set*. A temporally set event is conceived of as taking place on a specific occasion, a sequentially set event as part of a chain of events. In a particular setting defined by a narrative, an event may be presented as linked to a preceding and / or a following event. The principle of linear successivity (Johanson 1971: 246–247) implies that several events presented one after another are most naturally interpreted as proceeding in linear time as a temporal sequence in the sense of ‘did x and [then] did y’. This linkage does not, however, imply that the end of one event necessarily coincides with the beginning of the next one. Though not signalled explicitly, the order of events is suggested iconically by the order of the items. Aspectotemporal items are called *propulsive* if they allow this interpretation, i.e., produce progression in a narrative, and non-propulsive or *ruptive* if they are unable to advance the plot and thus disrupt the successivity (‘in sequence’ vs. ‘out of sequence’). However, it is often difficult to decide whether linearity suggests a strict temporal sequence or another kind of ordering of events.

An event can also be thought of as isolated from a sequential setting, without direct connection to other events. Events outside strict temporal and sequential settings are often relatively open to aspectotemporal conceptualization and display more variation in this respect than set events. Unlike many aspectologists, I do not consider the aspectual oppositions neutralized when their members are applied to such situations.

## 2.9. Textual behaviour

My analysis differs from attempts at equating viewpoint values with discourse functions, reducing them to certain features of the textual behaviour of the items concerned.

Oppositions in the viewpoint dimensions serve to express dynamics in discourse structure, for example, to relate events to each other. None seems to be restricted to



presenting individual events in particular contexts, to expressing “aspect in the narrow sense” as distinguished from “syntactic aspect” (Galton 1962: 18–21). Viewpoint distinctions are basic to the organization of narrative discourse and contribute to assigning aspectotemporal orientations to series of events, to presenting them as non-transitional or transitional, as temporally successive or overlapping, etc. +AD, –INTRA and –POST past items are typically propulsive, used for narration of sequences of events. +INTRA, –AD and +POST items are typically ruptive. The former often fulfill “foregrounding” functions, forming sequences that carry the main narrative line. The latter are often used as “backgrounding” descriptive or commenting devices (Johanson 1971: 234–254; cf. Weinrich 1964; Hopper 1979). High-focal +INTRA and +POST items are particularly incompatible with narrative sequence.

Aspectual-actional-temporal items of different kinds meet similar discourse exigencies in different languages. Though actionality, aspect and tense are categorically distinct, their interactions contribute to textual functions of essentially the same nature. Descriptions of discourse structure thus give indispensable insights into the functioning of viewpoint categories. Aspectoactional combinations produce more or less cursus-oriented or limit-oriented readings and may suggest, without being modes of action, a *dwelling* in an event, an *entry* into it, an *exit* from it, or its mere *occurrence*. Members of  $\pm$ INTRA and  $\pm$ AD oppositions are known to fulfill similar textual functions. For analogies between the Turkish and Russian past tense oppositions *yazıyordu* ‘wrote, was writing’ vs. *yazdı* ‘wrote’ and *pisal* ‘wrote, was writing’ vs. *napisal* ‘wrote’, see Johanson (1971: 93). These oppositions constitute what was referred to as the “main aspect opposition” (“Hauptaspektgegensatz”), used for situation description and situation change, for example, within the so-called “incidental schema” (“Inzidenzschema”; Pollak 1960: 132–133; cf. Bertinetto, Ebert & De Groot, this volume, fn. 8). It is thus clear that essential functions of viewpoint categories are related to the discourse and cannot be described without discourse analysis. It is of utmost importance to describe the connections of viewpoint distinctions with lexical and propositional meanings, notably with the temporal sequence of phases of the actional content.

On the other hand, the uses just mentioned do not cover all cases of aspectual relevance and are not sufficient to determine the values of the items in the sense of the pertinent semantic features involved. Viewpoint operators do not just serve the organization of narrative discourse and cannot, as linguistic categories, be assigned meaning in terms of context-dependent functions only. Though they do contribute to the textual functions mentioned, their semantics cannot be equated with their functions within the textual loom of situations, i.e., they cannot be defined in exclusively discourse-pragmatic terms as a means of expressing phases of actions, situation and situation change, succession and parallelity of events. In spite of all affinities between aspects and textual function types, no precise correspondences have been demonstrated. For example, it has not been possible to set up well-defined

aspects on the basis of “foregrounding” and “backgrounding” in narrative discourse. Such distinctions seem too vague to define aspectual values.

It is thus necessary to detect and define the semantic values that make the textual behaviour possible (Johanson 1971: 246). The typologist should not only register “broadly similar” functions at the textual level, but also try to determine, interpret and explain the similarities and differences observed. Textual functions are not identical to, but fulfilled by virtue of, specific perspectival values, which should therefore be pinpointed as precisely as possible.

## 2.10. Relations to traditional categories and terms

The specific terminality notions suggested within the present framework are intended to cover the aspectotemporal field in a more precise way than typological categories such as IPFV, PFV, PF, PROG seem to do. This, naturally, does not exclude similarities between the two kinds of notions. For example, it is possible to assume basic IPFV vs. PFV correlations offering the option of presenting or viewing an event as ‘a single whole’ or not, i.e. enabling the encoder to describe it, according to what he or she is concerned with, as a totality or as something unfolding, with specific attention to its internal structure (Comrie 1976: 3, 16). It may then be said that PFV and IPFV items are typically used to characterize events textually in an integral (“bounded”) and non-integral (“non-bounded”) way, respectively. However, the somewhat different idea that aspect is characterizable in terms of completion and non-completion often leads to misinterpretations of the aspectual content. Many so-called PFV items capable of conveying complete single events are aspectually unqualified or less qualified (nonpostterminal and / or nonintraterminal) items. With transformative actional contents, even items void of viewpoint content may imply completion.

The present framework differs from traditional approaches by distinguishing types of IPFV and PFV items. It also connects certain isolated traditional categories with each other on the focality scales. Thus, statives and resultatives, which are usually not classified as PFV or IPFV (cf. the “γ” items in Kuryłowicz 1956: 27), appear as high-focal postterminals. PROG items are similarly connected with other intraterminals as high-focal variants. Note that the allegedly typical aspect duality ‘progressivity’ vs. ‘totality’ is not realized explicitly in any language-specific opposition, since the value +INTRA, which is needed for progressivity, and the value +AD, needed for explicit totality, do not occur in the same aspect systems.

In traditional aspectological literature, the terms “perfective” and “imperfective” are used in various meanings, corresponding to different notions as distinguished in the present framework:

- (i) Morphological categories of the Slavic type (Russian, Bulgarian, etc.), in the following referred to as *perfective* (pf.) and *imperfective* (ipf.).

- (ii) Crosslinguistic aspect types, in the following referred to as PFV and IPFV.
- (iii) Viewpoint operators of the Russian type, in the following referred to as *adterminal* (+AD) and *nonadterminal* (–AD).
- (iv) Viewpoint operators of the Romance type, in the following referred to as *intraterminal* (+INTRA) and *nonintraterminal* (–INTRA).
- (v) Actional markers, in the following referred to as +*T-markers* and –*T-markers*.

The terms “bounded” and “non-bounded” will not be employed here, since they are also used in various meanings, sometimes indiscriminately for integral vs. non-integral textual representation, transformative vs. nontransformative actional content, and telic vs. atelic properties of the events referred to. More terminological precision is needed if we are to avoid talking of “bounded” and “non-bounded” situations expressed by “bounded” and “non-bounded” sentences containing “bounded” and “non-bounded” grammatical categories, etc.

### 3. Crosslinguistic types of categories

#### 3.1. An external *tertium comparationis*

A few comments are necessary on the problem of setting up crosslinguistic types of categories in the conceptual space of aspectotemporality. Languages obviously delimit and divide this space differently, and there is no universally valid viewpoint system. As no two categories occupy exactly the same position, all analogies will prove approximative. How can one determine the types of distinctions suited for interlingual functional comparison? On the one hand, since grammatical meaning is language-specific, the point of departure must be empirical observations on concrete languages, system-based analyses of meaning and use (semantics, pragmatics), relying on linguistic reality. On the other hand, since linguistic values determined within differently structured systems cannot be compared with each other in a direct way, an external *tertium comparationis* is required for crosslinguistic research on assignment of aspectotemporal functions.

#### 3.2. Notional and situational classifications

To arrive at the necessary generalizations, empirical methods are obviously required. One danger potentially threatening all approaches is that preconceived semantic notions are imputed to a given material, so that linguistic facts are violated and adjusted to a foreign scheme. This may be done by aprioristic application of distinctions peculiar to the linguist’s mother-tongue or some well-known language such as Latin, English, or, as frequently in aspectology, a Slavic language. There have been strong

tendencies towards hypostatizing members of specific Slavic oppositions as if they represented fixed values and transferring them to other systems (Rundgren 1963: 55–56). Needless to say, no individual language can be taken as the standard of comparison or as the point of departure for generalization. No aspectotemporal category of Irish, Bulgarian, Albanian, or Tatar is identical to any category of English or Russian. But inductive attempts at establishing, by abstraction, general concepts based on language-specific ones may also be dangerous. Language-specific concepts known under labels such as “imperfective”, “perfect”, etc. are not generalizable beyond particular stages of development of individual languages. Empirical bases of comparison that are too narrow may yield types such as the “perfect” (PF), which has few clear representatives in the whole set of languages compared and often a peculiarly vague status even in languages where it does occur. Typically enough, it has sometimes been characterized as a “free-floating gram”.

Numerous attempts at defining crosslinguistic types proceed from the question how certain general types of referential meaning are encoded language-specifically, trying to arrive at generalizations anchored outside language, in some ontological, psychological or logical “reality”.

One kind of solution is offered by purely notional systems with intensionally defined distinctive features. Even if there may be reasons to assume, behind the diversity of languages, cognitive categories common to all humans, such assumptions do not legitimate aprioristic approaches. The claim that basically the same linguistic features are common to all languages still lacks substantiation. In default of such evidence, interlingual comparison cannot be used to prove, for example, that an autonomous linguistic feature present in languages A and B must also be present in language C, though not formally signalled there. Preconceived metalinguistic schemes based on the application of notions from logical semantics, on one hand, often predict meanings that are not systematically reflected in natural languages, and, on the other hand, fail to predict meanings that are actually expressed.

Many typologists operate with ontological classifications, grouping together language-specific grammatical devices in types and subtypes according to the referential range of their applications, i.e., their use to represent certain types of extralinguistic situations. Such approaches are onomasiological, starting from situation types and trying to systematize the possibilities of expressing them. The problem addressed in our case is: “What devices do speakers of European languages use when verbalizing certain types of “aspectual” situations?”. This may even result in certain situations being defined as “PF situations”, “IPFV situations”, etc., something which consequently motivates questions such as “How does language X behave when it needs to express PF, IPFV, etc.?”. A general problem – seldom dealt with explicitly, and mostly solved intuitively – is how to establish the types in question. A well-argued taxonomy of situational contexts is needed if such substantialist approaches are to yield more than trivial results. Statements to the effect that IPFV items denote

“IPFV situations”, etc., are of course useless unless clear-cut criteria are given for associating the given grammatical devices with extralinguistic types.

Purely ontological classifications may lead far from what is actually coded by the devices in question and fail to capture essential differences between the linguistic categories lumped together. It may even turn out that aspectually relevant language-specific categories do not fit into any of the types unless some of their essential semantic properties are disregarded. Some are only marginally correlated to the type they are claimed to represent, their main language-specific functions being irrelevant to the definition. Some typologists working in the field of aspect and tense operate with “prototypical uses” that only determine semantic foci and leave the peripheries unspecified. Similarly used language-specific items are subsumed under crosslinguistic types (e.g., the “gram-types” in Bybee & Dahl 1989), the semantic structure of which is conceived of as a “radial structure” with a prototype focus and extensions. Needless to say, such approaches require clear criteria both for “similar uses” and for identifying certain uses as central as compared to the rest.

If such clear criteria are really available, we may observe cases in which a given item A displays a broad similarity with an item B in the sense that both are used in very much the same set of situational contexts. On the other hand, less adequate criteria may lead us to ignore semantically important uses outside the foci and thus also essential differences between the broadly similar items. The observation that an item A is similar to an item B with respect to certain uses may prove relatively unessential for the semantics of A. The latter may play a clear-cut language-specific role, but still prove to be just marginally correlated to the type it is supposed to instantiate. If A does not exhibit the similarity required, it may be classified as a “default” category, not correlated to any type at all, without prototypical characterization. This may even befall items that have clear semantic profiles in their specific systems, e.g., the Turkic so-called Aorists (e.g., Turkish *yazar* ‘writes, will write’). Such cases may indicate that the focal uses postulated are insufficient as a basis of classification and that the crosslinguistic types proposed should be reconsidered and defined in a more differentiated way.

The use of items in certain types of situations is no doubt an important part of the study of viewpoint operators. However, the expression-function correspondences remain unclear unless the results are put into a semantic framework where they can be compared to the linguistic values of the items involved. The analysis must be supplemented by a further analysis that makes the semantic connections between interrelated categories visible and intelligible. Bybee & Dahl talk of a “gram” as having inherent semantic substance reflecting the history of its development as much as the place it occupies in a synchronic system (1989: 97). A clear consequence of this is that the “substance” must be defined properly. In order to determine the place of a given item in a synchronic system, it is not sufficient to observe its use in certain types of extralinguistic situations and broadly similar uses of items in

other languages. However, arguing that contextual uses should be distinguished from grammatical meaning is not tantamount to objecting to situational classifications as such. Two points should be stressed to make this standpoint quite clear: (i) the place an item occupies in its system is certainly not a sufficient basis for typological research, and (ii) there is certainly no contradiction between grammatical meaning and use, if the latter is captured adequately. I assume that “gram-type” approaches and system-based ones yield complementary results and consider both necessary for the typological description of European languages (cf. Csató 1992).

### 3.3. A flexible framework connecting conceptual content with language-specific structures

In much contemporary work on aspect, category types are defined in absolute terms and established as fixed functional stations – PFV, IPFV, PROG, PF, etc. – to which aspectual realizations in different languages are linked. The positions are usually not clearly ordered in relation to one another and, if interconnected at all, are connected at best by paths of diachronic development. Such classifications in terms of fixed points may hide important differences between related categories and also fail to account for important common features. In particular, they may create the impression that languages outside the Standard Average European type exhibit less clear-cut categories. Thus, according to current definitions, Turkish lacks both a PF and a PROG, though it obviously possesses closely related categories. The range of variation within the space of aspectotemporality rather calls for approaches that account more properly for differences and similarities and make the category types comparable to each other, intra- and interlingually, rather than representing them as isolated, unconnected points in the space. The kind of framework argued for here should be a more flexible one: a pluri-dimensional space of viewpoint values with definitions formulated in relational and partly scalar terms. In such a framework, Turkish might, for example, possess postterminals with a clear affinity with the PF type and intraterminals that differ from the PROG type by a lower focality degree.

For a typology within the space of aspectotemporality, general cognitive-conceptual reference is the necessary *tertium comparationis* on the basis of which language-specific categories can be evaluated and compared. A typologist dealing with European viewpoint categories should compare their reference fields, determine which language-specific categories are “broadly similar” with respect to these fields, and set up possible reference types. A linguistically based conceptual network is needed that not only covers certain fixed points in the space of aspectotemporality but can also capture intermediate positions whose relevance is obvious, for example, from diachronic developments of viewpoint operators.

Deductive typological analyses should make use of results gained in inductive research, in detailed system-based descriptive work. Attempts at setting up basic types will yield better results if more attention is paid to immanent structures, concepts systematically expressed in languages by overtly marked or formally detectable covert categories. The basis should be linguistic rather than extralinguistic reality in the sense that the elements constituting the types are the ones typically found in natural languages. Statements on functional similarities and differences between categories should rest on what they actually signal in their systems. It should be asked by virtue of what structural qualities they are similar and / or different.

The claim that each language, as a first step, be described in its own terms does not represent a relativist view incompatible with crosslinguistic comparison. Only this procedure will enable us to show that both the conceptual space of aspectotemporality and its structuring are largely common to languages of different types, that the connections of cognitive-conceptual content with language-specific structures are far from random, that the number of connection types is not unlimited, that the relevant language-specific content categories form – on the basis of considerable similarities with respect to their reference fields – a restricted set of grammeme types, and that it might thus be possible to find *prototypical connections* of cognitive categories with language-specific structures. The obviously strong constraints upon the structures of central aspectotemporal systems of European languages seem rather promising in this respect.

An approach of the kind suggested here should avoid common typological fallacies such as equating crosslinguistic and language-specific categories and reducing the levels of description to the effect that important typological features of the languages compared cannot be captured (Csató 1992: 31–32). It should use variation in order to recognize invariants, pertinent common functional denominators. It should establish linguistic values without a conceptual realism that hypostatizes them. The values themselves, however, should be capable of being projected on extralinguistic reality. The goal would be a system of relevant conceptual coordinates determined by different configurations of values. Classifications of categories according to this coordinate system would yield different crosslinguistic types. No such type would be semantically identical to any individual category belonging to it. The values established would by definition be too general to predict the exact uses of the items.

### 3.4. Viewpoint values

The functions of the items studied are products of interacting aspectual, actional and temporal values but also of other factors involved in the communication. The values are conceived of as unique combinatory potentials, *relatively context-independent meanings*, unifying different uses at a higher level of abstraction. In order to spec-



ify values, the linguist must try to subtract *determining factors*, identify meanings common to the majority of uses and formulate them as adequately as possible. The combinatory variants produced by determining factors are instantiations of the relatively invariant meaning. Thus, context-dependent readings of intraterminals such as ‘simultaneity’, ‘inherence’, ‘manner’, and ‘instrumentality’ are all submeanings derivable from the value +INTRA. Values in this sense have little in common with caricature pictures of “neat structuralist meanings” of a simplistic kind. They are determined by observing and describing systematic interactional processes. When establishing them, the linguist must neglect certain differences in favour of overall resemblances, but this does not imply that the differences might be overlooked in the total description.

The precise language-specific functions and their distribution depend on the number of items and their oppositional configurations. The differences show up in the clearest way in discourse types that allow for maximal competition of the items involved. In contexts where one particular viewpoint operator is the only natural choice, its central meaning is most readily discerned. There may also be marginal uses in which the value seems weak or absent. If a common feature posited fails to unify the uses, prototype semantics, with as adequately defined foci as possible, may prove useful.

The values of the items arise within the oppositions they enter into. Since the interaction of values is crucial, no item can be treated “in its own right”. The individual category as such, without connections to others, is not a relevant entity for the study of grammatical meaning. The distinction between semantically marked and unmarked categories is also necessary; see Johanson (1971: 28–36) and Comrie’s remarks on the effects of the functioning of a category as the marked or the unmarked member of a binary aspect opposition (1976: 21, 112). The asymmetry arising from this distinction will have important consequences for the analysis. The marked member, e.g., a +INTRA item, represents a *differentia specifica* on the basis of a common *genus proximum*, while the unmarked member, e.g., a –INTRA item, takes up the space left over by the marked one, representing the absence of the positive concept and thus both a negative and a neutral value (Johanson 1971: 32–35). The marked item signals the plus value, whereas the opposing item lacks this value and gets its weaker values by default. All values derive their precise meanings from the context, but the values of unmarked categories are more dependent on the context than those of the marked ones. Unmarkedness of this kind is a well-known linguistic phenomenon. If, to cite a simple example, the values [+young] and [+male] are assigned to English *duckling* and German *Enterich* ‘drake’ respectively, *duck* and *Ente* may be assigned both negative values – [–young] ‘old’ and [–male] ‘female’, respectively – and the corresponding neutral values, i.e., ‘duck’ regardless of age or sex. There is nothing circular about an analysis reckoning with a neutral value in this systematic and predictable sense. The neutral value is expected to realize itself



in contexts where the feature in question is less relevant or irrelevant. It does not artificially eliminate contradictions to any rule, since it is itself part of the rule.

Functions and their distribution thus depend on the number of items interacting. A semantic feature of an item A may depend on the existence of a contrasting item B, so that A cannot be described adequately without regard to B. It is, as we have seen, important whether a +PAST item contrasts with other +PAST items, e.g., with an adterminal (Russian *pisal*), with an intraterminal (Turkish *yazdı*), with a postterminal (Norwegian *skrev*), with both an intra- and a postterminal (English *wrote*), or with none at all (South German *hat geschrieben*). But we have also noted that it is sometimes difficult to decide on questions of competition and contrast with other items, since many categories are less grammaticalized in the sense of having a less generalized use. This is often the case with high-focal intra- and postterminals on the threshold of aspectual function, e.g., German *war am Schreiben* 'was writing'. Another case already mentioned is the neutralization arising when an item is naturally characterized by a certain value but lacks competition in the same temporal stratum (+AD<sup>o</sup>, +INTRA<sup>o</sup>, +POST<sup>o</sup>). Thus, the natural viewpoint of O<sup>s</sup>-oriented non-pasts is intraterminality, a perspective derived from the primary deictic "nunc" situation, but a contrastive value +INTRA can only arise with a competing –INTRA item in the present stratum. Similarly, if an item covering the simple past or pre-past stratum has a natural affinity with postterminality but lacks a competitor there, it does not signal +POST as a contrastive value.

The relationship between aspectotemporal items and the situation types they may cover, i.e., be used for, presents interesting problems. The following sections will include some discussion on possible generalizations concerning the ways of expressing objective situations by means of items signalling certain features. Most of the many unsolved problems concerning "broadly similar" categories cannot, however, be discussed at length here, e.g., questions such as "How does language A, void of category X, express what is typically denoted by X in language B?". Remember that *covering* situations that allow characterization by a certain feature is not equal to *expressing* that very feature. Language A may use Y for situation types that require X in language B. Y may well cover situational areas represented by X without possessing the same value. Thus, in languages lacking +INTRA aspect markers, items indifferent to this value may refer to ongoing situations. Y may be semantically more general than the "broadly similar" X, i.e. also be used in cases where B requires Z. This is possible even if Y does not signal any of the values connected with X and Z and is indifferent to both of them. Similarly, within one single language, several items may be used for one and the same situation without possessing the same values. My position thus differs essentially from approaches in which items are, regardless of questions of distinctiveness, assigned PFV, IPFV or PF values if only they occur in certain "perfective", "imperfective" or "perfect" contexts.

### 3.5. Diachronic developments

Within various current hypotheses of grammaticalization, functions of grammatical categories are defined in terms of the dynamics of their development. This procedure does not, of course, contradict an analysis in terms of synchronic functional oppositions: the two approaches are indeed complementary to each other. The synchronic part of the task cannot be left out, since pointing to certain positions along diachronic paths naturally requires clear criteria for determining the respective functions. In Bybee & Dahl (1989: 97), the “inherent semantic substance” of the individual “gram” is thought to reflect the history of its development. This may be a correct observation, but it should also be emphasized that the examination of an item in terms of the dynamics of its development presupposes proper synchronic analyses at the relevant stages. Needless to say, in order to decide whether or not it has left the function ‘x’ and is on the path of becoming a ‘y’ item, the linguist must first have defined both ‘x’ and ‘y’. As the functions along a path may be subject to essential changes, it is not uninteresting to determine if a given item is used as ‘tense’, ‘aspect’, ‘mood’, etc. Bybee & Dahl do not consider it necessary to define what “overarching categories” of this kind a given “gram” belongs to. This statement should rightly be interpreted to the effect that it is not always possible to classify a given item unequivocally as belonging to one single category. It does not, however, exclude the necessity of analyzing the meaning of the item in terms of temporal, aspectual and modal elements.

The history of European viewpoint operators involves different and often complicated grammaticalization processes. Most of them can be shown to have undergone substantial diachronic changes of different kinds during their careers. The functional developments in the aspectual-actional-temporal field tend to proceed along rather similar lines. Observations of the development of various aspectotemporal systems have led linguists to assume panchronic chains of functional shifts, which will be commented on below. All items tend to extend their uses, losing specific meaning features and assuming more general functions to cover more situational contexts. New items are often introduced to take over the more specific former functions of the old ones. New items entering the dimensions of intra- and postterminality are mostly observed to start their careers as high-focals. The expressions of these functions are more often renewed than others, and, though all European languages possess the necessary material resources, some of them carry out such renewals more often than others.

Precise semantic criteria are needed to judge the degree of grammaticalization of individual items. One task is to distinguish between the operators and their actional sources. As is well known, concepts from the wide field of actionality (descriptive, phasal moods of action) are frequently abstracted and grammaticalized to express viewpoint notions. These gradual processes involve intermediary stages that are sometimes difficult to determine adequately. The boundary between actional and

aspectual function may even be blurred by formal fusion (Section 2.2). In general, however, the stages exhibit unmistakable characteristics.

The different values within the aspectual-actional-temporal field may be encoded by many various morphosyntactic means. The modes of expression include complex predicates, auxiliaries, adverbs, case marking, flexion, derivation, and merger with the verb stem (Seiler 1993: 21). Morphology often plays an undeservedly central part in the discussions on functions. Since formal items change their functions, no values are tied to specific modes of expression, and statements on allegedly typical expressions of aspect and actionality do not always correspond to the facts. However, the formal development of viewpoint markers typically goes from lexical constructions via periphrastic constructions to inflectional ones. New items emerge from the lexical potential – transformative, frequentative, iterative, completive, stative, and other items – and existent verb forms. If the points of departure are known, the itineraries leading to viewpoint operators are also largely predictable. Such processes will also be briefly commented on in the following sections.

## 4. Actional content

### 4.1. Ontological classification of events

Viewpoint operators apply to actional contents of different types and do not themselves signal any ontological properties of events. Aspectual values should not be hypostatized and interpreted in terms of actionality. For example, though IPFV – in the sense of +INTRA or –AD – is often taken to express durativity, iterativity, habituality, continuativity, etc., such readings depend on the actional content itself and not on the view applied to the event. Events of different ontological types may, with certain restrictions that will be discussed below, be envisaged intraterminally, postterminally or adterminally.

Iterative and pluri-occasional (“habitual”) readings of aspectual items must thus be distinguished from explicit means of signalling such meanings. Repetition is neither a viewpoint value itself, nor systematically linked to any such value. A set of repeated events can be envisaged as +INTRA, –INTRA, +AD, –AD, +POST, –POST, or represented without any aspectual characterization. Serial readings, henceforth indicated by [+ser], are suggested implicitly, or signalled explicitly by modes of action or by contextual elements such as adverbial modifiers denoting cyclic time (*daily, every year*), frequency (*often, seldom*) and habituality (*usually, always*). Whether the number of occurrences is undetermined or overtly quantified (‘X times’) may have consequences for the choice of aspect; for example, Russian +AD may be used in the latter case. A pluri-occasional global event may be conceived of as a state in the sense of a habit with an undetermined number of occurrences. This habituality

is compatible with different aspects, and the fact that +INTRA and –AD are often preferred to express it does not mean that it is part of the IPFV semantics. In French *lisait chaque jour*, Turkish *her gün okuyordu*, Bulgarian *vseki den četeše* ‘read every day’, a global event, consisting of repeated portions of ‘reading’ distributed over separated intervals, is envisaged intraterminally at an O<sup>2</sup>. However, habits can also be envisaged in other ways. Thus, in the sentence just cited, English prefers the Simple Past *read*, because its intraterminal item *was reading* signals high focality. (For focality degrees and pluri-occasionality, see 7.3.)

Type-referring, potential, or dispositive readings of aspectual items must also be distinguished from explicit signals of such meanings. Viewpoint operators do not themselves signal such distinctions, e.g., differences between generic and non-generic reference, events conceived of as types and as tokens. It is difficult to follow Hedin’s proposal (this volume) that IPFV – in the sense of our +INTRA and –AD categories – is type-referring and thus not used to envisage particular instantiations of events in time. However, strong defocalization of +INTRA items may produce dispositive and other similar modal readings (7.8).

It is often claimed that PFV – in the sense of +AD and –INTRA – expresses transitional (situation-changing) events (“achievements”, “accomplishments”), whereas IPFV – in the sense of +INTRA and –AD – expresses non-transitional events (“processes”, “states”). However, it is not a pertinent function of viewpoint operators to signal such ontological categories. Something that might be conceived of as a “state” or a “change” can be viewed in various aspectual perspectives. Definitions of the kind mentioned follow from equating aspect values with discourse functions. Narrative settings suggest sequences of transitional and non-transitional events. A transitional event leads to a change in the state of affairs, a leap into a new situation in the relevant text world. A non-transitional event occurs without producing such a change. Though it is a typical discourse function of IPFV items such as the Russian imperfective Past or the Romance Imperfect to stand for non-transitional events, they may also be used for transitional ones. If PFV is taken to signal transition, many linguistic facts become difficult to account for. Though +AD is dynamic and tends to express changes on the basis of a given state, this is not always the case with –INTRA items. The latter not only indicate that something ‘becomes the case’, but can also refer to non-transitional events, to something that ‘remains the case’ or simply ‘is the case’. They may well express ‘states’ or ‘processes’ prevailing for a certain time, e.g., French *a dormi deux heures*, Modern Greek *kimíthike dhó óres*, Turkish *iki saat uyudu*, Bulgarian *pospa dva časa* ‘slept for two hours’. The conflation of aspectual and ontological meaning may lead to confusing classifications. A consequence of Lyons’ analysis (1977: 709–710) is that the French *passé simple régna* ‘reigned’ in *régna pendant trente ans* ‘reigned for thirty years’ could be characterized as a “process verb” with respect to “aspectual character”, since it is “durative”, but as an “event verb” with respect to “aspect proper”, since it is “punctual” (cf. Bache’s

justified critique 1982: 63). With –INTRA items, the main factor is not ‘change’ or ‘transition’, but absence of the intraterminal perspective.

## 4.2. Modes of action

Modes of action, expressed by periphrastic or derivational markers, have functions similar to adverbial elements. They modify the meaning of the basic actional phrase, deriving new actional contents from more basic ones. The markers may be *preverbs*, as in Indo-European languages, or, as in Turkic and Mongolian, *postverbs*, consisting of a converb suffix and a desemanticized auxiliary verb, e.g., Kalmyk *bičf av-* ‘copy’ (‘take writing’). They prefer actional contents of certain semantic types, not displaying the degree of generalization typical of aspectotenses.

The actional properties signalled are of a qualitative or quantitative nature. Descriptive and procedural markers specify the kind or manner of development, e.g., a certain kind of ‘writing’ such as ‘rewrite, copy’: Norwegian *skrive om*, English *re-write*, Russian *pere-pisat’*, Lithuanian *per-rašyti*. Quantificational markers signal properties of frequency, duration and degree of accomplishment such as iterative, frequentative, semelfactive, durative, delimitative, perdurative, attenuative, completive. Some are of particular relevance for the realizations of aspect.

Iteratives signal that the action consists of repeated acts and are often used to express pluri-occasionality, e.g., Lithuanian *per-rašinėti* ← *per-rašyti* ‘rewrite’, Chechen *miyla* ← *mala* ‘drink’. Special devices for signalling pluri-occasionality (‘habituality’, ‘nonactuality’, etc.) should be distinguished from pluri-occasional readings of low- or nonfocal intraterminals, which may also cover the referential areas of higher items (7.3.2). Slavic languages use secondary imperfective formations such as Russian *čityvat’* ‘read repeatedly’ ← ipf. *čitat’* ‘reads’, e.g., *čityval ètu knigu* ‘has (on several occasions) read in this book’. Such explicit [+ser] markers may also combine with other modes of action, e.g., *počityvaet* ‘repeatedly reads a little’ ← *počitaet* ‘reads a little’. Certain Slavic languages make systematic use of iteratives derived from imperfectives, e.g., Czech *psávat* ← ipf. *psát* ‘write’. Bulgarian possesses one such verb, which may function as a specialized pluri-occasionality marker, *biva* ‘(usually) is’.

Some devices, e.g., the Lithuanian *-dav-* frequentatives of the type *rašydavo* ‘used to write’, are clearly pluri-occasional and not ‘habitual’ in a sense that would include events without separated localization intervals, e.g., *used to live there*. Some other devices, e.g., the English *used to* periphrasis, may also cover events which are not pluri-occasional, do not qualify as habits in any normal sense of the word, but rather represent permanent properties of the subject referent, e.g., *The Temple of Diana used to stand at Ephesus* (Comrie 1976: 28, cf. Macaulay 1978). Among similar actional devices are the Irish constructions with *bíonn* ‘is usually’ and *bíodh*

‘used to be’. Many other devices signal both pluri-occasional and permanent actions, e.g., Armenian periphrases with the auxiliary *linel* ‘be, be repeatedly, usually be’, Karachai *aliwčandī* ‘usually takes’, *aliwčan edi* ‘used to take’, Kalmyk *irdg* ‘usually comes’, *irdg bilä* ‘used to come’. Several pluri-occasional devices are restricted to the past stratum, e.g., English *used to* and Yiddish *fleg* periphrases, Lithuanian *-dav-* frequentatives, Turkic finite items in *-a turȳan*.

Some languages possess special markers of dispositive meaning, interpretable as pluri-occasionality, habituality, potentiality, or future time reference. Maltese *ikun* is formally a nonfocal Imperfect of ‘be’, and its semantic properties derive from this source. Compare Turkic items of the type *bolur* ‘may be, is possible’, developed from “Aorists” of *bol-* ‘become, be’. Combinations of +PLUR (pluri-occasionality) and +DISP (disposition) markers with +T-marking and with +INTRA and +POST operators will be commented on below.

Delimitative and perdurative modes of action include in their actional content a crucial limit as a measure of minimal-maximal extension. Delimitatives pose a temporal limit to the action: ‘for [not longer than] a certain period of time’, often with the meaning ‘spend [a certain period of time] V-ing’, e.g., Russian *počitat* ‘read for a while’. Perduratives express an action carried out ‘a whole entity / period through’, e.g., Russian *pročitat* ‘read through’, *progovorit* ‘talk for an entire period of time’. Both Russian types can be imperfectivized to express iterativity, e.g., *počityvat* ‘read repeatedly for a while’, *pročityvat* ‘read through repeatedly’. Continuative modes of action signal the continuation of a given action, ‘keep (on) / continue V-ing’, e.g., Kalmyk *umš-ja* ‘go on reading’, Yiddish *haltn in eyn shraybn* ‘keep on writing’ (Ebert, this volume).

Certain modes of action are preaspectual items, developing diachronically into viewpoint operators. Completives may play important roles in +T-marking, explicit marking of transformativity (Section 6.3), and develop into +AD items. They do not specify a final phase, but signal ‘V thoroughly, to completion’, e.g., Gothic *ga-fulljan* ‘fill to completion’, Hungarian *meg-ír-* ‘write (and finish writing), write to completion’, German *auf-essen* ‘eat up’. Some European languages such as Slavic, Baltic, Hungarian, Kartvelian, and Ossetic make systematic use of completives for +T-marking.

Phasal modes of action are not perspectival and relational in the sense of presenting the limits of an event in relation to orientation points. Many of them specify one inherent phase of the undifferentiated actional content denoted by the corresponding unmarked actional phrase, i.e., select the beginning, the course or the end. The selection is often done by means of phasal verbs such as *begin*, *proceed*, *finish*, or special lexicalizations. Many languages possess phasal pre- and postverbs which disambiguate ambiguous actional contents by excluding certain readings, e.g., English *sit down*, Kalmyk *unt-ǰ od-* ‘fall asleep’, *unt-ǰ kevt-* ‘sleep’, Russian *u-znat* ‘get to know’. Phases of particular cognitive saliency or social relevance are more likely to

be specified than others. Note that a phasal mode of action picks out a part of the potential content of a given actional phrase and that this part can be conceived of as denoting an action of its own, to which, for example, new phasal modes of action can also apply.

The dynamic initial phase of an actional content may be distinguished from the subsequent statal phase by means of ingressive, initium-specifying markers meaning 'enter, begin, come to perform the action' ('start V-ing', 'begin to V'), e.g., Lithuanian *imti rašyti* 'begin writing'. Pre- and postverb constructions are often found with actional contents of a cognitively salient initium. Thus, Serbian *do-znati* specifies the entrance into the state of 'knowing': 'get to know, come to know, learn, acquire knowledge'. Other examples: Russian *u-videt* 'catch sight of', *po-ljubit* 'take a liking to', *za-plakat* 'start to cry', Hungarian *le-ül* 'sit down', Tatar *tot-ïp al-* 'seize'. Egressive, finis-specifying meanings may be expressed by phasal verbs meaning 'finish', etc. There are, however, few if any egressive pre- or postverb constructions specifying the dynamic end phase of an actional content in the sense of 'conclude, leave the action'. Egressives differ from completives, which do not just specify a final phase: 'finish writing' does not denote the same action as 'write to completion'.

Statal or progressive, cursus-specifying modes of action operate on actional contents conceived of as having a salient cursus and exclude limit-oriented readings. They often go back to iteratives or duratives and may combine such functions with statal functions, 'be busy V-ing', e.g., Swedish *hålla på och skriva* 'keep writing, be writing'. Some also allow perdurative, continuative, or habitual interpretations. Some are based on locative metaphors, using elements meaning 'at' or 'in', e.g., German *am Schreiben sein*, Danish *være ved at skrive*. Others are locomotive constructions based on metaphors of movement ('move, go, run, come V-ing'), e.g., Italian periphrases with *andare* 'go', *venire* 'come' or Tatar complexes with *yörë-* 'move, run, go'. Some are postural verb constructions based on body position metaphors ('stand', 'sit', 'lie', etc.), e.g., Italian periphrases with *stare* 'be (situated)', Swedish *sitta (och)* 'sit (and)', Tatar *tör-* 'stand', *utir-* 'sit', *yat-* 'lie', Kalmyk *kevt-* 'lie'. The auxiliaries either preserve some of their lexical meanings, delimiting the action to certain body positions, or they are desemanticized and thus interchangeable. Statal play important parts as –T-markers (Section 6.5).

Poststatal markers express an evolutionary stage following upon the basic action, 'just have V-ed', e.g., French *venir de*, Catalan *acabar de*, Icelandic *vera [ny] búinn að*, signalling that the event is immediately prior to an O. Such actional items are often based on locative or movement metaphors ('be after doing', 'come from doing') and may be observed as preaspectuals developing diachronically into +POST operators, e.g., Welsh *mae wedi yn darllen* 'is after being in reading' > 'has read', Irish *tá tar eis a scríobh* 'is after writing' > 'has written'. Prestatal markers express a stage prior to the basic action, 'be about to V', 'tend to V', etc.



## 5. Internal phase structure

### 5.1. Aspect-sensitive actional categories

Actional content parameters of particular relevance for viewpoint realizations are subsumed under the *internal phase structure* (IPS). They do not concern the perspective applied to an event, but constitute aspect-sensitive actional categories basic to the use of viewpoint operators as terminality categories. In their interaction with aspect grammar, they clearly show their categorial independence within the field of aspectuality. Phase structure properties such as  $[\pm t]$ ,  $[\pm tf]$  and  $[\pm mom]$  are implicit or explicit features of the internal constituency of the actional content. The following is an attempt to determine basic phase structure values in European languages and to distinguish overt as well as covert actional categories on the basis of their way of reacting to aspects. The resulting categories show strong similarities across the languages under study. Though distributed in different ways, the distinctions mirror important differences with respect to the cognitive relevance of the phases of actions.

### 5.2. Categorization

The following categorization covers relevant phase distinctions in a variety of European languages.

<i>IPS category</i>	<i>The actional content is conceptualized</i>
Transformative $[+t]$	as implying transformation
Finitransformative	as implying final transformation
$[+mom]$	without a salient cursus
$[-mom]$	with a salient cursus
Initiotransformative	as implying initial transformation
Non-transformative $[-t]$	without transformation
$[+dyn]$	as dynamic
$[-dyn]$	as static

This scheme allows five basic categories to be distinguished: (i) momentaneous finitransformatives, (ii) non-momentaneous finitransformatives, (iii) initiotransformatives, (iv) dynamic nontransformatives, and (v) non-dynamic nontransformatives. The five classes may be ordered according to their degree of limit-orientation:  $[+tf, +mom]$ ,  $[+tf, -mom]$ ,  $[+ti]$ ,  $[-t, +dyn]$ ,  $[-t, -dyn]$ .

The classification goes back to a categorization of Turkish actional phrases based on formal tests (Johanson 1971: 194–233). It differs considerably from the classifications proposed by Vendler (1967) and Dowty (1972), which concern situation types conveyed by the whole sentential context and do not distinguish between viewpoint and actionality. Breu's and Sasse's division of aspectually relevant actions into



five classes (Breu 1984, Sasse 1991a, 1991b) starts from processual, stative and terminative actions and divides the last two classes further into two subclasses each. My basic distinction is the one between transformativity [+t], divided into [+tf] and [+ti], and nontransformativity. The main difference from most other approaches is that I classify *linguistic units expressing actions* rather than actions as such. The units classified are not verbs, but actional phrases, consisting minimally of a verbal lexeme, which may change their phase structure by way of recategorization (Section 6).

The three possible phases – the two limits (initium, finis) and the intermediate cursus – show different degrees of saliency in the types mentioned. For example, each actional content has a *relevant limit* (×), which varies according to the phase structure type. With nontransformatives, it is identical to the initial limit of the action. With transformatives, it is the *crucial limit* (⊗), at which the transformation takes place. Graphically:

[+tf]	-----⊗
[+ti]	⊗-----
[-t]	×-----

### 5.2.1. [±t]

The features will now be discussed in some detail. The basic classificatory criterion in natural languages of different types is *transformativity*. An actional phrase is transformative [+t] if the action designated by it has a natural evolutionary turning point, a crucial initial or final limit ⊗. Depending on the actional phrase, this limit may be the end or beginning of the action or even constitute the whole action. A nontransformative [-t] actional phrase does not imply any such limit.

Transformativity is not a vague notion of “some change in the world” and does not simply mean ‘containing an endpoint’, which might apply to any event. The actional content of transformatives comprises a culmination point at which a transformation takes place. They typically refer to telic (“desinent”, “bounded”, “cyclic”, “terminative”) actions, which by nature contain an inherent final limit indicating an evolutionary minimum-maximum, and, if fully achieved, reach this built-in endpoint. Non- momentaneous transformatives thus have a heterogeneous and dynamic actional content. Note, however, that telic actions may be referred to by both initio- and finitransformatives. The crucial limit may be the “left” or “right” boundary of the actional content expressed by the actional phrase. On the other hand, transformativity is not tantamount to telicity. The terms transformative and nontransformative refer to properties of the actional phrases, whereas the terms telic and atelic will be reserved for properties of the actions themselves. For example, an initio-transformative actional phrase denotes both an initial telic and a following atelic action.

Since viewpoint operators present limits of the events as attained (+AD), transgressed (+POST), or concealed (+INTRA), information concerning the presence of a crucial limit in the actional content is important for the interpretation. However, this presence does not necessarily mean that the crucial limit is focused upon and that the cursus is less important. Whether the crucial limit is highlighted or not, is a strictly aspectual matter. The complete representation of a telic event may produce a change leading to new states of affairs, but the use of a transformative actional phrase to describe an event does not necessarily imply that the transformation takes place. Even if the action expressed is not considered to be fully carried out unless the crucial limit is reached, this does not mean that it is conceived of as non-occurring. Even combined with an element meaning ‘almost’, transformatives do not necessarily imply – as nontransformatives do – that the action does not take place at all. The ‘almost’ element refers to the attainment of the crucial limit and does not exclude the occurrence of possible portions of action preceding that limit. Reference to telic events does not necessarily include the endpoint. Any event can be presented from within, so that the finis is not envisaged. Transformativity is not identical to PFV in the sense of +AD or –INTRA. It should be stressed that even items completely void of aspectual meaning may suggest completion if the actional content is transformative.

An implicit [ $\pm t$ ] distinction underlies the old Indo-European actional classification of Aorist and Present stems, originally without any special markers. Both stem types were indifferent towards intraterminality and constituted the nonpostterminal member of an opposition with the postterminal Perfect. Languages may possess items that are indifferent towards intraterminality but typically interpreted as ‘ongoing’ with [ $-t$ ] actional contents and as ‘accomplished’ with [ $+t$ ] actional contents. For example, Nenets exhibits a neutral item with this natural differentiation. (For pidgin and creole items of this kind, see Bickerton 1975.)

#### 5.2.1.1. [ $+tf$ ]

Transformatives may differ from each other with respect to which phase constitutes the crucial limit. With finittransformatives [ $+tf$ ], the end of the actional content is conceptualized as the inherent evolutionary turning point, with whose attainment a leap into a new state occurs. A [ $+tf$ ] content as expressed by actional phrases such as *reach* or *die* is conceived of as moving towards a natural conclusion. Though it is heading for completion, it is not necessarily envisaged as completed. The inner goal of the action must be distinguished from the endpoint of the event. The use of a [ $+tf$ ] actional phrase that signals full achievement does not necessarily imply that the corresponding event is fully achieved. The action is not fully carried out unless the final limit is reached, but it can be conceived of as going on before this point, e.g., viewed during the cursus leading up to it. Note that ingressive verbs signalling an entering phase, e.g., Russian *za-igrat* ‘start playing’, are also [ $+tf$ ] actional phrases.

If a past tense is used for an event described with a [+tf] item, it means that its *finis* does not occur later than at O. If the action has already been carried out, it cannot go on any more. Thus, [+tf] items do not occur in constructions such as ‘has V-ed, and is still V-ing’ (Johanson 1971: 198) or with continuative expressions such as ‘go on V-ing’. Due to the inherent culmination point, the feature [+tf] may be less fertile with +INTRA<sup>HF</sup> (Section 10.2.1.5).

Finitransformatives normally react negatively in tests concerning gradual realization. The indivisible, ‘all-or-nothing’ content is mostly incompatible with adverbials implying occurrence in portions. Even if the action may take up a certain amount of time, they also reject temporally delimiting duration adverbials of the type ‘for X time’, e.g., \**reach the house for two hours*. This criterion distinguishes finitransformatives from nontransformatives and initiotransformatives. However, they readily combine with mensural expressions of the type ‘in X time’, expressing the total indivisible action including its crucial limit, e.g., *reach the house in two hours*. This criterion distinguishes them from nontransformatives.

The feature [+tf] is relevant in all European languages, e.g., Classical Greek *árny-mai* ‘acquire, gain’, Lithuanian *įeiti* ‘enter’, German *gewinnen* ‘win’, Tatar *ül-* ‘die’. In earlier literature, Indo-European [±tf] distinctions were mostly discussed as “perfective” vs. “imperfective” distinctions. Their presence in the German verb system was first discussed by Jacob Grimm and Hermann Paul.

#### 5.2.1.1.1. [+TF, +MOM]

The *cursus* of finitransformatives may be more or less relevant. The telic events they refer to may be conceived of as momentaneous [+mom] or temporally extended [–mom]. In the first case, only the transforming final limit is salient. In the second case, the *cursus* is thought of as a process leading up to that limit. Terms such as “punctual” and “durative” will be avoided, since they are easily misleading; cf. Comrie’s clarifying discussion of ‘punctuality’ (1976: 41–44). “Durativity” is often used for a considerable temporal extension, and sometimes even for +INTRA.

Momentaneous finitransformatives [+tf, +mom] imply abrupt transformation without preliminaries, without any salience of the *cursus* leading to it. The action is conceived of as absolutely indivisible. Though even events of very short duration have an extension in time, initium and *cursus* seem irrelevant and appear to merge with the transforming *finis*, e.g., *drop*, *explode*, *sneeze*, Icelandic *byrja* ‘begin’, Bulgarian *skokna* ‘jump’, Modern Greek *vrísko* ‘find’ (in the concrete sense), *anakalípto* ‘discover’, East Armenian *patahel* ‘occur’. Such actions typically correspond to Vendler’s “achievements” or to actions expressed by Breu’s and Sasse’s “totally terminative” verb class.

It is highly dubious whether the actions denoted by these actional phrases might be regarded as telic, since their three phases practically coincide. As has been empha-

sized above, however, transformativity is not equal to telicity. The actional phrases in question signal a transformation and are thus transformative. They do not behave like initiotransformatives, but are clearly finitransformative according to the criterion that they cannot occur in ‘has V-ed and is still V-ing’.

All [+tf, +mom] actional phrases are naturally compatible with momentaneous time adverbials, e.g., *reached the house two hours ago*. In default of a salient course, they do not combine with ingressives or egressives (‘begin / stop V-ing’). Due to the same fact, the +INTRA perspective is of limited use with them. The interaction usually results in imminent and propinquive meanings (10.2.1.3). In a  $\pm$ AD language, the only natural operator is +AD. Formally corresponding –AD partners lack or imply repetition, [+ser]. For quantitative reinterpretation, see 6.4.

#### 5.2.1.1.2. [+TF, - MOM]

The feature combination [+tf, –mom] refers to actions of some duration, the cursus of which is cognitively relevant and may be conceptualized as preliminaries leading up to the transforming finis, e.g., English *die*, Modern Greek *paghóno* ‘freeze’, Russian *razbudit’* ‘waken’, East Armenian *karucel* ‘build’. The actional content may be more or less processual, implying successive transformations, e.g., *grow*, *improve*. The actions expressed typically correspond to Vendler’s “accomplishments” or to those denoted by Breu’s and Sasse’s “gradually terminative” verb class. It may certainly be discussed whether actions such as ‘arrive’ and ‘die’ are momentaneous or not in extralinguistic reality. Thus, such actions are often used as prototypical examples of Vendler’s “achievements”. The basis of the present classification is, however, the empirical observation that actional phrases expressing such actions allow pre-transformational phases of some duration in their actual linguistic behaviour. Many European languages have few [+tf, –mom] verbs, but readily create corresponding expanded actional phrases (6.1). Since the actions are both goal-oriented and conceived of as having a certain duration as a totality, the actional phrases may occur in the question ‘How long does it take to V?’ and thus combine with adverbials expressing in what time a given event is carried out (‘in X time’).

Non-momentaneous finitransformatives are fertile with various aspects. +INTRA envisages the preliminaries without the transformation, e.g., Turkish *geliyordu* ‘was coming’. +AD envisages the attainment of the crucial limit, i.e., the very transformation, e.g., Russian *vstretil* ‘met’. –INTRA and –AD disregard limits, e.g., Turkish *geldi* ‘came’, Russian *vstrečal* ‘met, was meeting’.

#### 5.2.1.2. [+ti]

The crucial limit may also be the beginning of the action. Initiotransformatives [+ti] are, like finitransformatives, actionally heterogeneous, but conceptualize an initial evolutionary turning point as an inherent part of the actional content. They combine

the concept of entering a state with that of the state itself, “marquent un point de départ avec une ouverture possible sur un développement ultérieur” (Seiler 1993: 28). Such actions, which involve a transformative beginning of the *cursum*, correspond to the ones expressed by Breu’s and Sasse’s “inchoative-stative” verb class.

An initiotransformative such as Turkish *otur-* denotes two evolutionally coupled phases: a transformational ‘sit down’ and a resulting posttransformational ‘sit’. It can thus occur in constructions such as ‘(has) V-ed and is still V-ing’. The first phase stands for a telic and dynamic action, the second one for an atelic and static action. The verb may thus correspond to both a finitransformative and a nontransformative of another language, e.g., Russian *sest’* ‘sit down’, *sidet’* ‘sit’. It is clear that initiotransformatives constitute a class of their own and should not be mistaken for a subclass of [+tf] or [–t]. They are neither ingressives (inchoatives, inceptives, etc.) nor statives. They cover both a telic action and an atelic action, i.e., what may, in some other language, be expressed by two actional phrases, one [+tf] + one [–t]. In this sense, initiotransformatives are certainly ambiguous, but their ambiguity is systematic, distinguishing them from all other classes. They involve a cognitively significant initium just in the same way as finitransformatives involve a cognitively significant finis, and thus do not deserve the designation “two-phase verbs” more than non-momentaneous finitransformatives do. The former imply a transformation leading to a state, the latter a state leading to a transformation. Just as non-momentaneous [+tf] actional phrases have a preliminary (pretransformational) and a transformational phase, [+ti] actional phrases possess a transformational and a posttransformational phase.

In their initial readings, [+ti] actional phrases are, like [+tf] items, compatible with momentaneous time adverbials. In their statal readings they are, like [–t] items, compatible with temporally delimiting duration adverbials. As for phasal verbs, continuatives and egressives may combine with their statal reading (‘go on V-ing’, ‘stop V-ing’), whereas there are heavy constraints on the use of ingressives to specify their initium (\*‘begin V-ing’), at least when the initial transformative phase is momentaneous.

[+ti] verbs are not equally well represented in all European languages. Examples of [+ti] are English *hide*, Czech *opřít se / opírat se* ‘lean + be leaning’, Classical Greek *órnymai* ‘get in motion + move’, Modern Greek *stékome* ‘stop + stand still’, *katalaváino* ‘understand (= become aware of + be aware of)’, *krívo* ‘hide (= put out of sight + keep out of sight)’, Romanian *cunoaște* ‘come to know + know’, Maltese *libes* ‘put on + wear’, Turkish *tut-* ‘grasp + hold’, Tatar *awir-* ‘fall ill + be ill’, Hungarian *fekszik* ‘lie down + lie’, Persian *nešastan* ‘sit down + sit’, Talysh *nışte* ‘sit down + sit’, *hüte* ‘fall asleep + sleep’, Nogai *oltir-* ‘sit down + sit’, Kalmyk *su-* ‘sit down + sit’.

## 5.2.2. [-t]

Nontransformative [-t] contents are actionally homogeneous, without a salient initial or final phase, e.g., English *cry, dance, know, run, want, work, write*, Classical Greek *phérō* ‘carry’, Russian *dut’* ‘blow’. The atelic actions they describe have, when represented as events, their natural limits, but none is conceptualized as crucial. All three phases are equally relevant, and a possible limitation is external (6.2). Needless to say, [-t] is never identical to IPFV in the sense of +INTRA or -AD.

To specify initium and finis of [-t] contents, ingressesives and egressives (‘begin / stop V-ing’) are required. As a [-t] actional content lacks a culminating point, it is, when represented as events, actually taking place from the moment it begins. Thus, to use a past tense for an event described with a [-t] item, it is enough that its initium is prior to O. Predications such as English *X has written, X wrote*, Russian *X pisał*, Turkish *X yazdı* mean that X has already carried out a portion of the action at O, e.g., written something. The event must at least have begun, but may be still going on or already finished. This means that [-t] actional phrases may occur in constructions such as ‘has V-ed and is still V-ing’. The action can be interrupted at any point of its course and still be said to have already taken place. On the other hand, there is no natural point beyond which it would not be prolongable.

Nontransformatives are naturally compatible with durative expressions indicating that the action is carried out for a certain time (‘for X time’). They are also compatible with points of time and may combine with momentaneous adverbials. This is due to the presence of a relevant limit in the actional content. Though [-t] items lack a crucial limit, they do possess a limit of relevance for aspectual realizations: the initium. For ‘initial attraction’, see 7.2.2 and 10.2.2.1.1.

## 5.2.2.1. [-t, +dyn]

The feature ‘dynamicity’ [+dyn] is inherent to transformatives, but it is also a subclassifying criterion for nontransformatives with respect to aspect reagentence. Most languages account for the distinction [-t, ±dyn]. Dynamic nontransformatives stand for less time-stable actional contents than non-dynamic ones, and have relatively well discernible cursus with clear beginnings and ends, e.g., *burn, eat, grow, look, play, sew, sing, speak, walk, wash*, Russian *pisat’* ‘write’, *myt’* ‘wash’, *pit’* ‘drink’, *pomogat’* ‘help’, *stradat’* ‘suffer’, Modern Greek *dhiavázo* ‘read’, *dhlulévo* ‘work’, East Armenian *šnčel* ‘breathe’, *zbošnel* ‘walk’. The actions expressed more or less correspond to Vendler’s “activities” or Breu’s and Sasse’s “(processual) actions” (ACTI). ‘Concreteness’ and ‘agentivity’ are frequent though not necessary features. While [-t] actional contents are homogeneous in the sense of lacking initial or final transformations, [-t, +dyn] contents are dynamic in the sense of internal processual evolution. They often involve some progress observable in gradually produced effects

and may then combine with expressions of speed, e.g., *write very fast*. Many actions imply little if any internal progress.

Dynamic nontransformatives easily combine with +INTRA and –INTRA values, and the dynamicity is particularly well suited for +INTRA<sup>HF</sup> items (“progressives”). In ±AD languages, –AD is the natural choice, whereas the use of +AD implies transfer to [+t], e.g., Russian *napisat’* ‘write’, *vymyt’* ‘wash’, *vypit’* ‘drink’, *pomoc’* ‘help’, *postradat’* ‘suffer’. Thus, the ±AD distinction clearly manifests itself with verbs of this kind, without the tendencies towards lexical differentiation observed with [+tf, –mom] verbs (Forsyth 1970: 53). The difference between +AD and –AD only resides in the view of the event: its presentation in the attainment of the crucial limit (+AD), or as mere occupation with the action, without reference to any limit (–AD). Russian [–t, +dyn] verbs expressing actions that imply little internal progress often lack perfective partners, e.g., *iskat’* ‘search for’, *mesti* ‘sweep’, *tancevat’* ‘dance’, *upravljat’* ‘govern’, *šumét’* ‘make noise’ or indeterminate motion verbs such as *guljat’* ‘stroll’ and *teč’* ‘flow’. Even in languages lacking ±AD distinctions, many verbs of the types cited above, e.g., *eat*, *write*, may vacillate with respect to their [±t] conceptualization, the finis being potentially conceivable as a crucial limit (without explicit external limitation by an object).

#### 5.2.2.2. [–t, –dyn]

With non-dynamic nontransformatives [–t, –dyn], the actional content is conceptualized as static, homogeneous, lacking internal processual evolution. It covers relatively unchanging, time-stable physical, psychical and social states – properties, relations, knowledge, possession, etc. – with less clearly discernible cursus and limits, and is often less concrete and less agentive than [–t, +dyn] actional contents, e.g., *be blind*, *contain*, *remain*, Icelandic *eiga* ‘possess’, *þekkja* ‘know’, Portuguese *viver* ‘live’, Romanian *costa* ‘cost’, Modern Greek *lípo* ‘be lacking’, *aksízo* ‘be worth’, Russian *značit’* ‘mean’, *prinadležat’* ‘belong’, *sostojat’* ‘consist’, *naxodit’sja* ‘be located’, *uvažat’* ‘respect’, East Armenian *karoṅanal* ‘be able’, *nsanakel* ‘denote’. The actions expressed approximately correspond to Vendler’s “states” or Breu’s and Sasse’s “totally stative” class. In default of internal evolution, [–t, –dyn] actional contents are incompatible with expressions of speed. As they have a low preference for countability, they are often incompatible with expressions of repetition. They may also avoid combining with ingressives and egressives. Actional contents implying little internal progress exclude gradual expressions, e.g., *\*sit little by little*.

[–t, –dyn] actional contents readily combine with +INTRA, which presents them from a viewpoint located within their course, e.g., Modern Greek *íkserē*, Turkish *biliyordu* ‘he knew’. Due to their lack of dynamicity they are infertile with +INTRA<sup>HF</sup> (10.2.2.5). Combinations with –INTRA are often rather limited. Thus, Romanian verbs such as *cântari* ‘weigh’ are normally not used in the –INTRA past,



and Modern Greek verbs such as *aníko* ‘belong to’, *periéxo* ‘contain’, *periméno* ‘wait’ lack Aorist forms. Not unexpectedly, +AD is excluded. Thus, Russian [–t, –dyn] verbs such as *stojat* ‘stand’ and *ždat* ‘wait’ lack perfective partners. Perfectives such as *prostojat* ‘stand through a certain period of time’, and *podozdat* ‘await’ represent special modes of action (Section 4.2) and are not normal +AD aspectual partners of *stojat*’ and *ždat*’.

## 6. Actional recategorization

### 6.1. Recategorization processes

An actional phrase is minimally a verb lexeme taken in its most concrete and quantitatively simple sense, referring to a single basic event. It may be assigned one or more of the features discussed above and classified accordingly. Attention must be paid to different semantic readings and valency differences that affect the internal phase structure. The problem is extremely complex, so much the more as actional values can also change pragmatically. Restriction to the lexeme level is impracticable, since verbs are seldom context-free. Though the central syntactic role of the verb and its morphology has often led to the assumption that aspect and actionality relate to the simple verb, strict lexeme classifications are impossible, even language-specifically. One and the same lexical item may prove ambivalent in tests, showing both [–t] and [+t] properties, e.g., *dine for two hours* vs. *dine in two hours*. In particular, many [+tf, –mom] verbs do not represent their class in a clear-cut way without disambiguating complements.

In the following, it will be assumed that minimal actional phrases may change their basic phase structure by way of recategorization. This is thought to take place according to certain principles that were discussed in Johanson (1971: 198–220) and supposed to be valid beyond the particular purpose of classifying Turkish actional phrases. The compositional process of recategorization starts from the syntactic-semantic minimum of a verb in its most concrete and quantitatively simple sense and proceeds to account for the actional effects of more abstract and quantitatively complex readings in successively expanding syntagms containing various obligatory and facultative complements. Note that this conception is not equal to the traditional view of the actional content of the very verb as “vacillating according to the context”.

The basic phase structure may be transformativized or nontransformativized. The former change implies actional *heterogenization*, the latter *homogenization*. The specification of the actional content may be overtly signalled by +T-marking and –T-marking. +T- and –T-markers may be derivational elements closely tied to the verb, auxiliaries, parts of complex predicates, case-marking devices, adverbials, etc. The actional values expressed by +T- and –T-marking are often referred to as “im-



perfectivity” and “perfectivity” respectively, though they are not aspectual in the sense of viewpoint categories. Exceptions are portmanteau markers (2.2), which combine a viewpoint and a phase structure value, thus expressing an interactional meaning in themselves.

## 6.2. Transformativization

Nontransformatives may be *limited* to [+t] by mensural units expressing a specific quantity and thus defining the minimal-maximal extension of the action. A crucial limit, external to the verb meaning itself, is set with regard to the subject referent, an object referent or the goal of a motion. The decisive factor is the *undivided reference*. The limitation lies in the verb- external entity, which is totally involved in the action – totally covered, affected, created, consumed, destroyed, etc. – and thus specifies its crucial limit. The action leads to a transformation because there is an end to the entity. Limiting elements will not be dealt with as “context”, but as part of the actional phrase.

The limitation may also be spatial. With [–t, +dyn] verbs such as *go, run, walk*, a crucial limit may be set by a mensural expression, e.g., *a kilometre*, or by the goal of the motion, a materially limiting entity expressed by a direction adverbial, e.g., *to the beach*. Undivided reference (‘all the way to’) is decisive for the limitation to [+tf]. Similarly, [+ti] items can be recategorized to [+tf] by adverbials that restrict their content to one of the two possible phases. In Turkish *sandalyeye otur-* ‘sit down on the chair’ and Hungarian *az ágyra fekszik* ‘lie down on the bed’, the items *otur-* ‘sit down + sit’ and *fekszik* ‘lie down + lie’ are recategorized as [+tf]. In *sandalyede otur-* ‘sit on the chair’ and *az ágyon fekszik* ‘lie on the bed’, the actional contents are homogenized to [–t] (cf. Csató 2000).

As far as verb complements are concerned, the decisive point is, again, whether their referents are quantified as undivided entities or not. The crucial limit may be set in relation to a subject or object referent with certain properties. A [–t, +dyn] verb such as *write* primarily refers to an atelic event. It may be limited to [+tf] by a totally affected object referent, expressed by a nominal such as *a letter, the letter, letters, the letters, two letters, a set of letters*. With undivided reference, the resulting action is telic, i.e., it cannot be considered fully achieved unless the relevant amount of letters is produced.

The present article is not the adequate framework for dealing in detail with how complements and their case-marking relate to limitation, and how limitation relates to referentiality, specificity and definiteness as part of general problems of “transitivity” and information structure. There are certain – though often rather unsystematic – affinities between undivided reference and object definiteness, between [–t] and indefinite objects, between [+t] and definite objects. Even the indefinite objects in

*build a house* and *bake a cake* offer crucial limits, whereas the definite article in *play the piano* does not. Many European languages lack a definite article, the presence vs. absence of which may signal specificity, non-specificity, definiteness and indefiniteness. Russian *pisat'* 'write' has the basic features  $[-t, +dyn]$ . Writing is an atelic action unless it has an object as a goal. More important than goal-directedness, however, is the undivided reference to the object. Reference to an entity that is conceived of as totally produced (*pis'mo* 'letter'), referring, sets a crucial limit to it. With  $+AD$  *napisal pis'mo*, the event is viewed in its attainment of this limit, which can be translated as 'wrote a / the letter'. For the question of multiple entities, see 6.4. Differences between the definite and the indefinite conjugation in some Finno-Ugrian languages may also contribute to differentiating  $[\pm t]$ .

### 6.3. +T-marking

A nontransformative actional content may be transformativized by means of special phase structure markers, +T-markers, which, focusing on the finis or the initium, explicitly signal the notion of a crucial limit which the basic actional phrase does not contain. +T-markers may turn nontransformatives into finitransformatives, e.g., English *sit*  $[-t] \rightarrow sit\ down\ [+tf]$ , or initiotransformatives into finitransformatives, specifying the initial phase of the content of the unprefixed verb, e.g., Hungarian *fekszik* 'lie down + lie'  $[+ti] \rightarrow le-fekszik$  'lie down'  $[+tf]$ . +T-marking categories also include the above-mentioned delimitative and perdurative modes of action, which imply a crucial limit, e.g., Russian *počitat'* 'read for a while', *pročitat'* 'read through'.

Though  $[\pm t]$  features are very often implicit, most European languages also use explicit +T-marking devices. The use is more or less generalized. Some languages, e.g., Baltic (Lithuanian, Latvian), Hungarian, Kartvelian, Ossetic, most Turkic languages, and some Slavic languages such as Bulgarian, employ +T-marking rather systematically. +T-marking mostly starts with phase specification and limitation of transitive actional phrases containing objects (e.g., *write a letter*).

Preverbs are most commonly used as +T-markers, e.g., Classical Greek *pheúgō*  $\rightarrow dia-pheúgō$  'flee', Latin *facio*  $\rightarrow ef-ficio$  'yield', Gothic *fulljan*  $\rightarrow ga-fulljan$  'fill up', Lithuanian *rašyti*  $\rightarrow pa-rašyti$  'write down', Latvian *rakstīt*  $\rightarrow uz-rakstīt$  'write down', *lasīt*  $\rightarrow iz-lasīt$  'read (and finish reading)', Hungarian *ír*  $\rightarrow meg-ír$  'write (and finish writing), write down'. Bulgarian mostly uses preverbs or the suffix *-n* to turn imperfectives into perfectives, e.g., *piša* 'I write', 'I am writing'  $\rightarrow napiša$  'I write up'. Kartvelian uses +T-marking preverbs that do not change the lexical meaning of the verb, e.g., Georgian *da-* for *çers* 'writes' and *mo-* for *ķvdeba* 'dies'. Modern Georgian offers a choice between an unmarked Present, e.g., *çer* 'tu l'écrits', and a +T-marked prefixed Present, expressing the action "vue par rapport au terme",

e.g., *da-çer* ‘tu l’écris’ = ‘tu mènes à bout l’action d’écrire’ > ‘tu l’éciras’ (Vogt 1971: 175). The preverbs used mostly go back to expressions of movement, often directional adverbs meaning ‘away’, ‘down’, ‘into’, ‘through’, ‘up’, etc., e.g., Classical Greek *apo-* ‘[away] from’, *dia-* ‘through’, *kata-* ‘down’, *syn-* ‘[together] with’. In Svan, the +T-marker is a directional preverb. Ossetic, which is rather similar to Georgian in its +T-marking system, has genuinely Iranian preverbs with primary spatial-directional functions, e.g., *fe* ‘away’; < *pati-*).

Postverbs are used as +T-markers in Turkic and Mongolian: Kalmyk *-jork-* (converb + ‘throw’) > *-čk-*, e.g., *ũ-* ‘drink’ → *ũčk-* ‘drink up’. They are common in all Turkic languages of Europe except Standard Turkish. The postverbs mostly go back to dynamic verbs such as ‘give’, ‘put’, ‘reach’, ‘send’, ‘take’, ‘throw’, e.g., Chuvash *bět-* ‘end’, *il-* ‘take’, *par-* ‘give’, *xur-* ‘put’, *šit-* ‘reach’.

+T-markers thus go back to lexemes with dynamic meaning components. They may more or less preserve the original lexical meaning or add an additional actional meaning, from which the [+t] notion derives. The [+t] meaning is often combined with some additional specification of the content with respect to direction or manner of realization, e.g., Hungarian *ki-jön* ‘come out’, German *er-jagen* ‘hunt down’, Tatar *ěšlāp bětěr-* ‘work (and finish working)’. +T-marking is often performed by completives, consumatives, and exhaustives, signalling that the object referent is effected or affected thoroughly, to completion, totally consumed (e.g., *eat up*). The additional meanings tend to fade away in favour of pure +T-marking. In archaic Classical Greek, the lexical meanings of +T-marking preverbs such as *apo-* ‘[away] from’ are often rather well preserved. The possibility of substituting *apo-thaneîn* for *thaneîn* ‘die’ in Attic Greek indicates that the lexical meaning has been lost. This development may even lead to the loss of the simplicia.

+T-marking is often referred to as “perfectivization” and confused with marking of +AD. Thus, Lithuanian verbs provided with +T-markers such as *pa-* are usually called “perfectives”, though they only signal transformativity (cf. Maslov 1985: 15). +T-marked items are functionally similar to +AD items by signalling a crucial limit, but they do not, as the latter, imply the actual attainment of this limit. +T-marking only specifies the actional phrase. In Functional Grammar of the Simon Dik tradition, it should, as argued in Johanson (1996), be taken to belong to the innermost layer of  $\pi$ -operators, operating immediately on the predicate. +T-marking may be said to represent a preaspectual stage, since it may develop diachronically into viewpoint marking. This shift has taken place in Slavic languages such as Russian, where +T-marking not only implies ‘a crucial limit to attain’, but also views this limit as *attained* in the sense of +AD.

Since +T-marking does not signal PFV in the sense of +AD or –INTRA, its absence should not be confused with IPFV in the sense of +INTRA or –AD. Thus, Hungarian +T-unmarked past items as in *írta a levelet* ‘wrote the letter’, *írt egy levelet* ‘wrote a letter’, *levelet írt* ‘wrote letters’ do not display +INTRA or –AD

meanings and may, for example, readily combine with ‘for X time’ adverbials. The combination +PAST *times* +T is not a past intraterminal, but just suggests that the crucial limit was not attained at the relevant time interval, e.g., Finnish *kirjoitti kirjetta* ‘was [occupied with] writing a letter’ (partitive); cf. *kirjoitti kirjeen* ‘wrote a letter’ (+T-unmarked).

In systems with +T-marking, [–t] items may get conative interpretations without a ±INTRA opposition, e.g., *sterben* ‘die’ as against *er-sterben* in 19th century German, e.g., *Ich sterbe, sterbe und kann nicht ersterben* ‘I am dying, dying, and cannot pass away’ (Goethe). Similarly, a Classical Greek [–t] item such as *épeithe* ‘persuaded’ may suggest conation (‘tried to persuade’). The distinction between +T-marked and +T-unmarked items yields the same effect in Georgian, e.g., in the Aorist items of the sentence *A ო, აო და ვერ გააო* ‘Il essaya de l’ouvrir, sans résultat’ (Vogt 1971: 187).

As we noted, +T-markers are used with various degrees of generality. Some languages have developed consistent transformativizing systems, where +T-markers form highly grammaticalized modes of action used more or less obligatorily with [+t] actional phrases. For example, Hungarian verbs that are clearly transformative in their quantitatively basic meaning are +T-marked, e.g., *meg-hal* ‘die’ (6.8). Among the Kartvelian languages, Svan applies obligatory +T-marking to transformatives. Still, +T-marking generally tends to be rather irregular in that not all [+t] actional phrases take part in it. +T-marking may also be more or less fertile with different aspectotemporal categories (10.2.1, 10.3.2).

Note that +T-marking may combine with iterativity or pluri-occasionality markers. Bulgarian secondary imperfectives derived from perfectives, e.g., *napisva* ‘usually writes up’ ← pf. *napiše* ‘writes up’, form a special actional type denoting pluri-occasional global events with telic subevents. Compare Russian iterative perduratives such as *pročityvaet* ‘repeatedly reads through’ ← *pročitaet* ‘reads through’. Lithuanian exhibits +T-marked frequentatives such as *parašydavo* ‘used to write (to completion)’.

## 6.4. Nontransformativization

Transformatives may be actionally homogenized by suppression of the effect of the crucial limit and thus turned into nontransformatives (Johanson 1971: 194–201). Nontransformativization may come about in different ways, most frequently by *quantitative reinterpretation*. In these cases, the actional content does not suggest a single-action reading [–ser], but is quantitatively interpreted as repeated – as an action composed of a series of identical actions – and thus gets a *serial* reading [+ser]. Such actional phrases are used to represent global events containing subevents. [+ser] readings may be suggested by overt markers indicating the in-

volvement of multiple entities (number of subject and object referents), by quantifying adverbials, etc., but they are also possible without such markers.

Serialization may turn transformatives into nontransformatives: [+t] + [+ser] = [–t]. The actional content then no longer involves one single transformation, but recurrent transformations all through its duration, which has a homogenizing effect. Iteratives are normally nontransformative. An actional phrase with actants involving multiple entities such as French *tous mouraient* ‘all were dying’ (Johanson 1971: 206) may thus be nontransformative: a collective ‘dying’ may be conceived of as atelic. When [+tf, +mom] actional contents such as ‘explode’ are realized as [+ser], they normally lose their transformativity. The change of the phase structure to [–t] naturally changes the applicability of viewpoint operators. For example, high-focal intraterminals prefer to operate on [–ser] actional phrases (10.2.1.5).

The feature [+ser] is always present in pluri-occasional (“inactual”, habitual, etc.) meanings. Note that, since [+ser] is not part of the context, but of the actional phrase itself, we do not say that the applicability of aspects to certain verbs changes under pluri-occasional readings.

The limiting effect of “accusative” objects in Finnish and Estonian is cancelled by [+ser] interpretation. The same is true of Lithuanian +T-marked actional phrases: in *kasdien parašė po vieną laišką* ‘writes (and finishes writing) a letter every day’, the global event, envisaged in its course, is a sequence of events, each characterized as transformative. –PAST (+INTRA<sup>o</sup>) operates on the global event, while the +T-marking refers to the actionality of each subevent. Slavic secondary imperfectives, which have a nontransformativizing effect, frequently imply [+ser]. Though the notion of a crucial limit is preserved in the verb meaning, it is only valid for each sub-action and suspended as a feature of the whole action expressed. The formation of Bulgarian imperfectives from perfectives (with -a-, -va-, -ava-, -uva-) is a productive nontransformativizing device, the products of which often occur with pluri-occasional (habitual) meanings, e.g., *napis-va-m* ‘I (usually) write up’.

Though [–t] might be said to be typical of actional phrases expressing repeated events, plurality is not homogenizing as such. Even a [+ser] actional phrase may be limited. The plurality may be exhaustive, involving a whole set of entities, e.g., *boil eggs* [–t] → *boil all the eggs* [+t], and definite articles as markers of identifying reference may support such readings. Thus, *write letters* tends to be interpreted as [–t] because of its indefinite plural object. The corresponding object nominal in Russian *pisat’ pis’ma* may easily be interpreted as referring, in a limiting way, to a complete particular set (‘write and finish writing a / the [whole set of] letter[s]’). Still, the decisive factor is not the reference to a whole set of entities. Actional phrases with actants involving multiple entities may also be transformative: a collective ‘dying’ can, for example, also be conceived of as telic. The decisive question is about undivided vs. divided reference to the set of entities: does the global event as a whole have a “desinence” – a built-in endpoint, an inherent final limit indicating an evolu-

tional minimum-maximum – or not? A good deal of indeterminacy may be expected with respect to the conceptualization of such cases.

Finally, negation of [+t] actional phrases often has a nontransformativizing effect. An actional content consisting of the absence of a certain telic action is usually conceived of as lacking a shape which might culminate in a crucial limit.

## 6.5. –T-marking

Nontransformativization may be signalled by –T-marking modes of action, which overrule the idea of a crucial limit in the meaning of the basic actional phrase and thus exclude limit-oriented interpretations.

–T-marking can be performed by Slavic secondary imperfectives derived from prefixed perfective stems by means of suffixes that go back to iterative markers. In the meaning of these verbs, the actional notion of a crucial limit is suspended as a relevant feature. They still preserve their iterative function in some Slavic and Baltic languages, e.g., Lithuanian *per-raš-inėti* ‘rewrite, copy (repeatedly)’. But Slavic secondary imperfectives may also function as –T-markers without implying [+ser], e.g., Czech *vy-hazuji* ‘I throw out, I am throwing out’. Ossetic transformatives may be nontransformativized by means of the element *-cæi*. Turkic and Mongolian languages use postverb constructions to specify the statal phase of ambiguous actional phrases, e.g., Tatar *awir-* ‘fall ill + be ill’ → *awir-ïp tör-* ‘be ill’, Kalmyk *unt-* ‘fall asleep + sleep’ → *unt-ŋ kevt-* ‘sleep’. The [–t] meaning may also be combined with a specification of the manner of realization, e.g., Turkish *yaz-ıp dur-* ‘keep on writing’ (durativity).

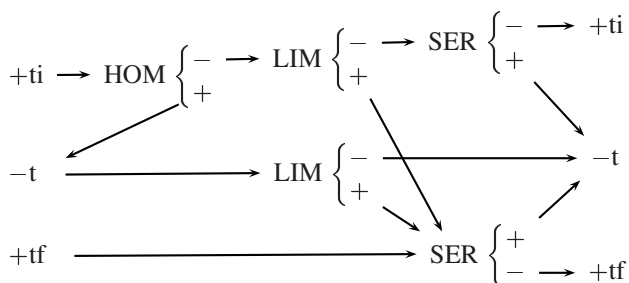
–T-marking can also be carried out with case-marking on object nominals. Transitive [+t] actional phrases may have intransitive [+t] counterparts, e.g., German (*etwas*) *durchbóhren* [+t, +mom] / (*etwas*) *durchbohren* [+t, –mom] ‘bore through, pierce (something)’ vs. *durch (etwas) bohren* ‘bore through (something)’, Swedish *skriva (något)* ‘write (something)’ vs. *skriva på* [‘skri:va pɔ] (något) ‘be engaged in writing (something)’. Some Finno-Ugrian languages employ systematic –T-marking by means of the partitive as opposed to the total (“accusative”, formally genitive or nominative) object case. Such oppositions are usually said to distinguish “limited” from “non-limited” (“total”, “resultative”) actions. Since “limitation” here means divided reference to the object, the definition does not contradict our analysis. Limitation in our sense means that the actional content has an inherent limit defined by the extension of the object. The partitive serves as a –T-marker with homogenizing effect, e.g., Finnish *lukea kirjaa* ‘read (parts of) the book’. By contrast, the total object case implies an action that includes a crucial limit, *lukea kirjan* ‘read (and finish reading) the book’. Similarly, the total object case in Estonian *küpsetas koogi* ‘baked a cake’ (cf. Metslang & Tammola 1995: 305) might be analysed as the

unmarked case representing the natural transformativity of ‘bake a cake’, i.e., with a built-in crucial limit, whereas the partitive suppresses this limit in *küpsetas kooki* ‘engaged in baking a cake’.

+T- and –T-markers may interact to produce differentiated actionality systems. Transformatives need nontransformativizing devices and *vice versa*. It is thus not surprising if –T-markers occur with items carrying +T-markers. Several –T-markers go back to iteratives, which often start from [+tf, +mom] verbs and then diffuse to other types. Interestingly enough, the originally iterative Slavic *-aj-* derivatives, which developed into –T-markers, almost always occur with +T-marked verbs.

## 6.6. Recategorization options

The recategorization options mentioned are roughly summarized in the following graphic, which shows the paths of SER(ialization) to [–t] by means of [+ser], HOM(ogenization) to [–t] by other means, and LIM(itation) to [+tf]:



## 6.7. Interaction with time adverbials

A few words should be said here about the interaction of time adverbials with actional values, i.e. as modifiers of the actional phrase. The compatibility of time adverbials with actionality and aspect is a complex matter, to which I shall return in several sections. One basic question is whether certain adverbials refer to the global event, its subevents, or some other interval, e.g., an aspectual orientation point. The stereotype ‘X Time’ will be used for any quantified unit of time, and ‘ $t_x$ ’, ‘ $t_y$ ’ for different instants of time (Bertinetto & Delfitto, this volume).

Compatibilities with certain time adverbials can be used as criteria for distinguishing [±t]. The adverbials themselves do not indicate such actional values, but their meanings interact with the phase structure in various ways. The temporal delimitation performed by certain adverbials differs from the material limitation discussed above. Time adverbials have no limiting effect [–t] → [+t]. Not all temporally delimited events are telic and expressed by [+t] actional phrases.