CLIPP

Christiani Lehmanni inedita, publicanda, publicata

titulus

Predicate classes and PARTICIPATION

huius textus situs retis mundialis

http://www.christianlehmann.eu/publ/lehmann_pred_classes.pdf

dies manuscripti postremum modificati

06.09.2019

occasio orationis habitae

European Science Foundation Workshop on Typology of Languages in Europe, Rome, 7 – 9 /1/1988

volumen publicationem continens

Seiler, Hansjakob & Premper, Waldfried (eds.), *PARTIZIPATION. Das sprachliche Erfassen von Sachverhalten.* Tübingen: G. Narr (LUS, 6)

annus publicationis

1991

paginae

183-239

Predicate classes and PARTICIPATION

Christian Lehmann

> It is perhaps more plausible to assume that, instead of there being a set of universal valency-roles and circumstantial roles for all languages, there are certain universal principles of cognition and perception (which may or may not be innate) and that the application of these principles to the situations that are described by language permits a considerable range of variation in the way in which these situations can be categorized.
> John Lyons, *Semantics*, 499.

1. Introduction

1.1. General embedding of the topic

A couple of research strands which, albeit not exactly mutually independent, were nevertheless fed from different sources, have recently converged in what we may call the general grammar of the fundamental relations. By the **fundamental relations** I mean the syntactic relations in the clause which most often correspond to the semantic roles of agent and patient.[1] Among the contributing approaches, at least the following can be named:

1. **Valency theory** as introduced into linguistics by various schools of European structuralism, esp. Lucien Tesnière.
2. **Case grammar** as created by Charles Fillmore and carried on, inter alia, in William Foley's and Robert Van Valin's role and reference grammar.
3. Research into **verbal voices and derivations** which ultimately goes back to Indo-European morphology and finds its modern successor in the work of V.S. Khrakovsky's and V. Nedjalkov's Leningrad research group and the more syntactically orientated interest for passive, antipassive and the like.
4. The **typology of accusative and ergative languages**, originating in observations of the middle of the last century on the passive character of the verb in such languages as Classical Tibetan and Basque, then expanded in the work of Soviet scholars on Caucasian languages and more recently flourishing both on the descriptive and the cross-linguistic levels all over the world.
5. **Basic order typology** as created by Joseph Greenberg, insofar as it, on the conceptual level, presupposes a definition of the fundamental relations and, on the explanatory level, brings functional sentence perspective into play, thus leading to Charles Li's and Sandra Thompson's typology of subject-prominence vs. topic-prominence.

---

[1] The term 'fundamental relation' was apparently introduced in Bossong 1980, although in a slightly different sense.

6. **Syntactic theory**, esp. of the nature of the subject-predicate relationship and of grammatical relations in general, which has led to such models as relational grammar and government and binding theory.

There are at present two research groups which try to combine the vast amount of empirical knowledge and theoretical insights accumulated in these traditions and to arrive at a unified theory of linguistic structure in the area in question. One of them is the 'équipe de recherche interlinguistique sur les variations d'actance et leur correlats' (RIVALC), led by Gilbert Lazard at the Centre National de la Recherche Scientifique at Paris. The other one is the research group on universals and typology (UNITYP), led by Hansjakob Seiler at the Linguistic Institute of the University of Cologne. The approaches differ both in the theoretical basis and in the methodology. While RIVALC essentially tries to presuppose as few basic notions as possible and to work their way from the **actance variations** and their semantic correlates observable in a number of languages up to universal and typological generalizations, UNITYP presupposes a theoretical framework comprising cognitively-based **universal dimensions** of language functions and principles for their manifestation in subdimensions to be incorporated into language systems. There is also a difference in scope, as RIVALC concentrates more on an in-depth study of actance relations proper, while UNITYP tries to incorporate these, beside similar things such as noun/verb distinction and verb serialization, into the dimension of **participation**, which, in turn, has to be integrated into a comprehensive dimensional theory of language. Despite such basic differences, both groups currently deal with the same set of phenomena and accordingly come up with similar results.

1.2. Some recent work

In Lazard 1985[v], the following factors of grammatical meaning are identified as semantic correlates of actance variations:

1. The nature of the verbal center itself;
2. the semantic roles of the arguments vis-à-vis the verb;
3. the grammatical and lexical categories that the arguments belong to;
4. tense, aspect and mood of the clause;
5. the functional sentence perspective;
6. purely syntactic factors.

While no one of these areas can be said to have received sufficient study, it seems that area no. 1 has, in fact, received least attention. Research executed up to now can be divided into two main types:

1. High level classifications of either situations or verbal meanings, based or not on older work on aspectual characters (Aktionsarten; cf. Lyons 1977: 705f) of verbs, have been common knowledge in general linguistics at least since Godel 1950, where the stative/dynamic distinction is shown to be linguistically relevant.[2] This figures prominently and fruitfully in some semantically-based descriptive models, four of which will be mentioned here.

Chafe 1970, ch. 9 gives a classification of predicate meanings which is further refined in ch. 12. It runs as in F1.

---

[2] Also to be mentioned in this connection is European structural semantics as represented, e.g., in García-Hernández 1980, where lexical relations between verbs, such as conversion, complementarity and differences in aspectual character, have been studied.

F1. *Predicate meanings (Chafe 1970)*

predicate / arguments	static	dynamic
0	ambient	
patient	state	process
agent	–	action
agent + patient	–	action-process

Predicate meanings are also what is classified in Daneš 1987. Here events are distinguished from processes by being compounded in the sense of involving a transition between an initial and a final situation. Therefore they are also called mutations. F2 renders the main divisions.

F2. *Predicate meanings (Daneš 1987)*

predicate / situation	static	dynamic
	state	ongoing
simple	–	process
compounded	–	event

On-goings may be further subdivided according to agentivity.

Lyons 1977, ch.12.4 and 15.6, instead, classifies situations, in the way shown in F3.

F3. *Situations (Lyons 1977)*

situation	static	dynamic	
	durative		punctual
general	state	process	event
controlled	-	action	act

Dik 1978:34 also classifies what he calls states of affairs, in the schema of F4.

F4. *States of affairs (Dik 1978)*

dynamic / controlled	+	-
+	action	position
-	process	state

Although the terminology differs, it may be readily seen from F1 – F4 that high-level distinctions include those between state, process, event and action; and what is criterial here are notions such as static vs. dynamic, agentive and controlled. Moreover, while all authors seem to agree that there are no agents in states, Dik admits of control in a non-dynamic situation.

The relevance of distinctions such as the above and, more in particular, of the verb's aspectual character to the expression of the fundamental relations is one of the topics in the pioneering work by Hopper & Thompson (1980). They argue that transitivity may be charac-

terized as a prototypical concept which is maximally manifested by a clause with, i.a., telic and punctual aspect/aspectual character as well as agentivity and volitionality on the part of one participant coupled with total affectedness and high individuation on the part of the other. These findings are integrated into the dimension of participation in Seiler 1984, ch. 2.2 and 3.3.5.

2. Traditional descriptive linguistics provides us with such notions as *verba dicendi, sentiendi, iudicandi* etc. These have been taken up in some studies of lexical fields in the verbal sphere, sometimes with due regard to the syntactic behavior of the semantic classes in question. Occasionally, it has been observed (e.g. in Dezső 1982, ch.1.2.1) that a given semantically defined group showed syntactically similar behavior even in languages of different types. In a series of articles, Tsunoda (e.g. 1981, 1985) takes up the transitivity hypothesis of Hopper & Thompson 1980 and shows that besides the well-known split between ergative and accusative construction, there is another split between transitive and non-transitive construction of bivalent verbs, where a transitive construction may be either ergative or accusative, but a non-transitive construction is neither. This split is conditioned by the lexical class of the predicate. Tsunoda presents the set of bivalent verb types shown in F5, which are ordered primarily according to the degree of affectedness of the object.

F5. *Verb-type hierarchy (Tsunoda 1981)*[3]

type	1		2		3	4	5	6
meaning	direct effect		perception		pursuit	knowledge	feeling	possession
examples	1a kill, break	1b hit, shoot	2a see	2b look	search, wait	know, understand, remember, forget	love, like, want, need	possess

F5 is called a hierarchy because it embodies, among other things, the following generalization: if a language has transitive clause structure at a given position of F5, it will, *ceteris paribus*, have transitive construction for all positions to the left; and conversely for non-transitive clause structure. This approach has been expanded in Drossard this vol., ch.5, where predicate classes are, for the first time, assigned their place within the dimension of participation.

The "verb-types" in the last-mentioned approach have largely remained isolated lexical groups for which no general framework is provided. On the other hand, the theoretically based approach taken in the models mentioned before, although occasionally supplemented by two or three steps further down the classificatory hierarchy, nowhere comes close to *verba dicendi, sentiendi et iudicandi*. There is, thus, a gap between our knowledge of the most general classes of situations and our knowledge of the syntactic relevance of certain lexical classes of predicates.

It is quite obvious why this should be so. An empirically-based survey, no matter whether of predicate meanings or of situations functioning in linguistic structure, presupposes comprehensive research into the whole verbal and adjectival vocabulary. This has occasionally been tried for one language.[4] It seems plainly impossible to do such research in depth on a cross-

[3] F5 is copied from Tsunoda 1981:395. This is a proper subset of the updated version in Tsunoda 1985:388, which is more detailed than necessary for the present context.

[4] for instance, for German in Ballmer & Brennenstuhl 1986

linguistic scale. In an article such as this one, only a systematicization of what can be found in the literature can be attempted.

Moreover, it should be clear from the outset that this kind of research cannot be expected to yield clear-cut cross-linguistic generalizations, to come up with regularities structuring the grammars of all languages. This is because **types of situations are primarily coded in the lexicon**. Lexical classes established by semantic criteria rarely exhibit grammatical behavior common to all and only their members. As a largely analogous example outside the verbal sphere, one may refer to sex and gender. Although noone will doubt the grammatical significance of sex even at a cross-linguistic level, generalizations will be less than clear-cut even within a single language.

The aim of the present paper is neither to establish universals or types in the area of predicate classes, nor to spell out a detailed classification. What I will try to do is to combine the factors that have been found relevant in this area into a unitary framework. The idea is to provide the basic concepts and the structure of a classification of predicates, as a tool for investigations into universals and types in the domain of participation.

Verbal meanings are not a *primum datum*. If their classification is to prove relevant for an understanding of participation, it cannot be done as an isolated piece of lexicological analysis. Instead, it must be based on a typology of the situations in which participation takes place. I will therefore start by establishing the concepts of a situation and of participation (§2), then attempt a classification of situations (§3), derive predicate classes from this classification (§4) and finally (§5) give some hints as to the possible use of predicate classes in linguistic typology.

2. Theoretical basis

2.1. The explication of an idea

Just as anything else in a language system, lexical meanings are not pre-given to the speaker, so that he would have to accommodate all his operations in the area of participation to the predicate available to him in each case. Instead, the speaker starts out with an **idea**. This will have many facets, and it is in accordance with these that he will choose not only his predicate, but also the other lexical and grammatical categories mentioned in §1.2, as well as a large amount of others, more or less intimately related to participation.

The idea is first conceived as a **holistic gestalt** and then gradually explicated, i.e. unfolded.[5] In this process, there are high-level and low-level decisions to be taken. However, the hierarchy alluded to here is not one of linguistic (lexical or grammatical) categories. Instead, the highest level of decisions is the level of general conscience, which controls communication and cognition. The lower levels relate to meaningful units and structures of the language used, and lowest are the levels of automatic grammatical and phonological processes. From this picture, it becomes clear that if our account is to model the activity of the

[5] This holistic gestalt approach to the analysis of sentence structure is grounded in the Humboldtian tradition. Finck 1909:4-7 explains that the speaker starts from a unitary mental representation, which he first decomposes into constitutive concepts and then recovers by uniting the parts again. He bases his typology on differences among languages in this respect. Cf. also Kaznelson 1974:173: "Die unmittelbare Realität der Welt sind die Prozesse, Ereignisse, Tatbestände in ihren räumlichen und zeitlichen Begrenzungen. Die sprachlichen Einheiten, die Wörter, widerspiegeln die Prozesse oder Ereignisse nicht unmittelbar; diese werden vielmehr durch die Rede mit ihren Sätzen widergespiegelt." Cf. also Seiler 1984, esp. ch. 4 on the theoretical foundation for the techniques of participation.

speaker, we have to tackle the question of predicate classes at a higher level, because the speaker does so, too.

An idea has a substantive and an intentional aspect. The substantive aspect is what may be called the **thought**; the intentional aspect is the **illocutionary force**.[6] Although these two aspects are as tightly interwoven as all the other aspects that will be mentioned, nothing more will be said on illocutionary force.

The explication of the thought consists in the **expansion** of some and the non-expansion or **condensation** of other aspects. It is guided by hypotheses regarding the disposition of the hearer, according to which some aspects of the thought will have to be made quite explicit to him, while others can remain implicit. While the relative weighting of aspects of the thought in itself concerns the latter's substantive content, the way in which the slope between explicit and implicit aspects is conveyed to the hearer is a matter of **functional sentence perspective**. Again, nothing more will be said about the latter.

The next crucial point is whether the thought is simple or complex, i.e. whether unfolding it will yield one or more **propositions**. For the reasoning in the present context, this makes a difference only if one proposition makes part of another, rather than being just concatenated (coordinated) with it. In the latter case, all the concatenated propositions can be dealt with separately. The former case implies that the explication of the superordinate proposition will partly consist in explicating the subordinate proposition. We will come back to this problem in §3.5.

I will avoid the term 'state of affairs', because for one thing, it has a static flavor and seems, thus, inappropriate for dynamic situations; and for another, it would clash with the term 'state', which we will need. Instead, a proposition will be conceived as the semiotic representation of a **situation** (cf. Comrie 1976:13, Lyons 1977:483). However, in a linguistic context we are not dealing with non-linguistic reality itself, but with its cognitive representation. Therefore, all such terms as 'situation', 'event' and the like will be used to refer to cognitive, not to physical phenomena.

2.2. Participatum and participants

From the point of view of participation, a situation consists of a center, which may be called participatum, and between zero and a handful of concepts somehow related to the center, to be called **participants**.[7] At the level of semiotic entities, a **predicate** (in one of the senses of this word) corresponds to a participatum, and an **argument** corresponds to a participant (cf. Dik 1978 for this terminology). If a participant is represented at the level of syntax, it will be in the form of an **actant** (cf. Lazard 1985[v]); and if the participatum is represented, it will mostly be in the form of a **verb**, although other parts of speech, especially adjectives, are also possible.

Apart from participation, the situation has many other aspects, among them the internal structure of the participants, their quantitative involvement in the situation, and also the time structure of the situation. There can be no doubt that there is an intimate interplay between all of these, especially the latter, and participation. Most of them will just have to be ignored in the present context.

---

[6] Cf. Fillmore 1968, §3 on proposition vs. modality.

[7] The noun *participant* will be treated as grammatically inanimate, except where exclusive reference to a human being is made.

It is at this level that the classification of situations proper begins. In a sense, the set-up of situations from a participatum and a set of participants as performed in language activity in itself constitutes a classification. In several traditions of linguistic structuralism, the participatum has been conceived as **determined** by its participants. This implies that the participatum embodies a *genus proximum* and the participant a *differentia specifica*. Every language affords a primary classification of situations in its lexicon, essentially in the form of verbal lexemes. **Every verbal lexeme embodies a type of situation.** Language carries this classification through to the lowest level of the individual situations by specifying the types provided by the lexicon through the addition of participants and other material which modifies or determines clauses.

That this is a possible view of what happens in participation is confirmed by **nominalization** (cf. Lehmann 1982). This is an operation which gradually abstracts from all the specific ingredients of situations (modality, tense, aspect, person, participants) and finally leads to verbal nouns, which embody a situation type. The typicization afforded by nominalization thus constitutes the converse of the specification afforded by participation.

Although there is much truth in this view, its weak point lies in the supposition, already criticized in §2.1, that the participatum is somehow given beforehand, independently, and that the specification of participants is an operation of additional selection. In fact, the main problem facing everyone setting about a classification of situations lies in the fact that **the nature of the participatum is inseparable from the relations of the participants to it** (cf. Seiler 1984:128). Essential aspects of the participatum are determined by the sheer number of participants, but more so by the nature of each one's relation to the participatum. There is an interrelation between participatum and participants which cannot be resolved into a precedence relation. Attempts at such a resolution are known from the literature. The *Aspects* model of generative grammar provided for a prior specification of the actants; in a second step, the verb was subcategorized in dependence from the NPs surrounding it. Similarly, in the first launch of case grammar (Fillmore 1968), case frames were conceived as constellations of a verb with a set of arguments having independently selected case roles; and it was the case frame that defined a situation. On the other hand, Chafe 1970 provides for prior selection of the predicate type and only then allows for expansion by a set of arguments in roles determined by the predicate type. Contrary to such approaches, it appears that participatum and participant are correlative notions: there is no action without an agent, and equally there is no agent without an action.

Again, **participant relations are inseparable from participant properties.** For instance, if a participant is a proposition or an inanimate object, it cannot be an experiencer. Although a property such as 'animate' might appear to be just an absolute affair concerning an entity in itself, it is essentially bound up with what the entity can **do** or **be done to** and, thus, shapes the nature of the situation.

Lastly, many, perhaps all of the criteria which classify situations are **gradient** rather than **dichotomous**. A clear example is provided by the parameter of affectedness. An entity is not either affected or unaffected by a situation. A statue, for instance, may be destroyed, decapitated, corroded, caressed, looked at, seen, loved or ignored. Where does affectedness end here? Recall that F5 is essentially a scale of decreasing affectedness.

What all of this amounts to is that there will be no comprehensive hierarchical classification of situations. Instead, a number of **parameters** will be identified whose interplay determines the nature of a situation. Familiar and new classes of situations will, thus, find their places in a **multi-dimensional space.**

3. The classification of situations

3.1. A note on methodology

Before we start, a methodological remark seems to be in order. It was said in §2.2 that in every language the bulk of the low-level classification of situations is done in the lexicon, namely in the form of individual lexical items. However, it is clear that even if we presuppose this, it will provide us only with the lowest level of our classification. Obviously, we want to subsume individual lexical meanings under more general situation types.

Now if we were dealing with purely lexical semantics, we might easily devise an onomasiological classification which is arbitrary with regard to the linguistic facts. It would not be clear what kind of evidence could confirm the claim that such a classification is actually operative in the speaker's linguistic activity. Moreover, given the practical research situation alluded to in §1.2, it would be hard to bring in the semasiological viewpoint.

However, we are not dealing with purely lexical semantics. There are **operations** which convert a sign designating one type of situation into a sign designating another type of situation. Suffice it here to mention as an example the resultative derivation, which converts a process such as *the vase breaks* into a state such as *the vase is broken*. Such operations leave traces on the signs which are commonly treated as marks of derivation or inflection. Our semasiological work is greatly simplified and put on a safer methodological basis if we pay primary attention to such classes as are overtly marked in inflection and derivation.[8] We will then be certain to establish classes which, rather than being an artefact of a purely onomasiological approach, make a genuine part of language, since they are evidently aimed at by language operations. Therefore, **there is no classification of situations apart from an account of the operations which relate them to each other.**

My classification of situations will proceed according to the following rationale. First the situation is articulated into participatum and participants. The properties of the participatum or of the situation as a whole and the properties of participants are considered in turn. Finally, the relations between participants and the participatum are analyzed.

3.2. Exteriorization of participants

1. In the holistic, undifferentiated situation, there is just a participatum, which contains the participants. To unfold it means to bring the participants to the fore, to build them up, to individuate them and to render them referentially independent. Before we go into further detail, let me exemplify:

E1 Bang!

E2 sahak
YUC afraid
'he is afraid'

E3 Fritz packte kräftig zu.
GER 'Fred grasped vigorously [at the thing(s)].'

E4 Piove.
ITA 'It is raining.'

[8] This approach to semantic analysis was codified in Meillet 1902 as the principle of "n'admettre aucune catégorie sémantique qui ne réponde à un moyen d'expression distinct dans la langue même".

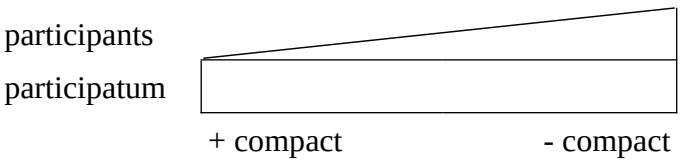
E5 Wir gingen hin.
GER ‘We went to the place.’

E6 John gave Mary a book.

E1 – E6 illustrate different phases of the exteriorization process. E1 and E2 exemplify the unexpanded participatum. The situation is represented as an unanalyzed whole. The examples differ, though, in that E1 is unexpandable, while a participant (and other modifications) might be added to E2. In E3, the participatum is accompanied by one participant (and a modification). In addition, however, reference is made to a goal towards which the movement extends, which is contained in the participatum and cannot be made explicit. E4 shares features with both of the preceding two examples. Like E2, the situation is represented without independent participants. However, the verbal ending at least hints at a third person singular participant. Contrary to the situation in E2, this participant is not explicable as a normal subject. As in E3, there is one participant (if participant it is) inherent in situations such as E4, namely the place (normally the deictic center) where the situation holds.[9] This could be made explicit in E4. In E5, both the agent and the goal location of the situation are hinted at deictically/anaphorically and accordingly represented by free grammatical forms. The English translation goes one step further in providing the goal-location as an independent participant. Finally, E6 is an example of a fully developed situation, where a set of participants are opposed to the participatum.

Generalizing on such examples, we can define exteriorization as the operation which gradually brings participants (included in the participatum) to the fore and opposes them syntagmatically to the participatum. There is, thus, a continuum which may be visualized as in F6.

F6. *Exteriorization of participants*



F6 presupposes that there is a participatum which remains unchanged. To the extent that the participatum contains the participants, as in E1 – E4, the situation is **compact**. We will see shortly why compact here is not opposed to diffuse.

2. Exteriorization has many facets. Starting with derivational processes, we first observe that many action concepts embody the alternative of exteriorizing or not an undergoer. The typical manifestation of this alternative in a modern Indo-European language is exemplified in E7.

E7 The children are eating.

The situation in E7 implies the existence of an affected participant which is contained in the participatum but not exteriorized. The structural solution to the functional problem here is the transitive verb with an **optional direct object**. Other languages use derivational processes for the same purpose. On the one hand, such an action verb may be basically intransitive. Combining it with a direct object (thus allowing an undergoer to be exteriorized) requires the kind of **transitivization** which has been called **extraversion**. This is true, e.g., of a number of Malaio-Polynesian languages such as Tolai; cf. Mosel 1984. On the other hand, such an action verb may be basically transitive. Omitting the direct object (thus allowing the undergoer to

[9] Cf. Lyons 1977, ch. 12.3. In Chafe 1970, ch. 9.7, such situations are called ‘ambient’.

remain internal) requires the kind of **detransitivization** which has been called **introversion**. This is true, e.g., of Russian, which uses the reflexive for this purpose; cf. Comrie 1985:319-321.[10]

If cases such as E3 and E7 are interpreted in the light of exteriorization, they may throw some light on various kinds of **internal participants**. Consider first the **cognate object** (also 'inner object') construction.[11]

E8 I dreamt a horrible dream.

E9 wan sa-n tawarawana
TRU PL dance-ABS.3 tawarawana
'they dance the tawarawana' (Monod-Becquelin 1976:126)

Certain actions such as the ones in E8 and E9 can be conceived as resulting in an abstract product, normally represented by the corresponding *nomen acti*. This can be exteriorized from the participatum only if it is somehow modified, as it is in the examples. The resulting cognate object bears some resemblance to a normal direct object. However, it cannot generally become the subject of a passive construction. In Trumai (E9), it does not take the case ending appropriate for objects. This is evidence that the cognate object does not have the same degree of independence vis-à-vis the verb as a normal direct object.

Thus, certain predicates are 'pregnant' with an inner object. Many languages present evidence that 'cough', 'sneeze', 'laugh', 'weep' and similar ones belong among these. In several languages with ergative construction, they appear in the anti-impersonal construction, which means that they take an ergative actant even though there is no absolutive actant (cf. Lazard 1985 [A], Drossard this vol., ch.14). In languages with active/inactive clause structure such as Lakhota (cf. Van Valin 1977:10) and Tapirapé (cf. Leite 1987:18), they take the active construction (cf. §3.6.2), although the argument is not a typical agent. Such predicates can be conceived as containing an object of result (cf. DeLancey 1985).

There is no question here of suggesting that all intransitive action verbs should be analyzed as containing an inner object. However, it does seem that the concept of exteriorization can help to understand at least some cases of actance variation on the transitivity parameter.

Once there are cognate objects, one may ask whether there are no cognate subjects. Ambient situations might provide a case in point.

E10 Der Wind weht.
GER 'The wind blows.'

In German usage, *der Wind weht* is in a paradigm with *es regnet* (it rains), *es stürmt* (it is stormy); it is not idiomatic to say *es weht.* Since the wind in E10 exists only as a function of the blowing, it might be considered as an inner or cognate subject. On the other hand, this paradigm also includes *die Sonne scheint* (the sun shines), which does not suggest an analysis in terms of a cognate subject. I will leave this contemplation at that.

A participant inherent in many a verbal meaning is the instrument. Consider such phrases as *kick with the foot, slap with the hand, eat with the mouth* etc., which are all awkward in the

---

[10] The terms 'extraversion' and 'introversion' are found in Paris 1985. Chafe 1970, ch. 11 uses 'deprocessive' for introversion. Yet another possibility, in analogy to 'anti-causative', would be 'anti-applicative'. Its inflectional counterpart, viz. antipassive, does not belong here, because the undergoer does not fail to be exteriorized, but is rather distantiated; cf. E52.

[11] Cf. Chao 1968:312-316 for Mandarin, Lichtenberk 1982, §6 for Manam and Austin 1982 for Australian languages.

same way that *dream a dream* is awkward. Exteriorization of the instrument is possible, again, either if the instrument is somehow modified (*kick with both feet* etc.), or else if the meaning of the participant is subtracted from the meaning of the participatum (*hit with the foot*).[12]

Incorporation vs. distantiation of actants is, of course, intimately connected with exteriorization. When an object is incorporated into the verb, the latter is likened to an intransitive verb. This means that the participant is absorbed into the participatum, which thereby becomes compacter. Incorporation can thus be seen as the converse of the cognate object construction.

3. It is quite clear that there is no biunique mapping between participants and actants. On the one hand, we have seen a couple of cases where there are more participants than actants. On the other hand, there may also be cases of dummy actants which do not correspond to any participant. For instance, the reflexive pronoun with obligatorily reflexive verbs such as *sich schämen* 'be ashamed' shares some features with a direct object without representing any participant.

Any lexically specified actant, however, is to be conceived as representing a participant which is exteriorized from the participatum. Any regular change between the manifestation and non-manifestation of such an actant corresponds to the choice of exteriorizing or not the corresponding participant. Insofar, exteriorization is the primary functional correlate of **quantitative valency**. However, before we can relate it to the familiar valency classes of avalent, monovalent, bivalent etc. verbs, we will have to consider another parameter influencing valency, involvement (§3.6). On the basis of the above considerations, we can anticipate that we will be able to recognize, in each of these classes, 'pregnant' predicates, i.e. predicates which contain an argument in addition to their actual quantitative valency.

3.3. Inflation of the participatum

When neither participatum nor participants are expanded, there is no situation at all. However, it is possible to expand the participants and leave the participatum implicit. Here are some examples:

E11 Und das mir!
GER 'And this is being/has been done/said to me!'

E12 "ha tsiwe" tsiwe-tl
TRU 1 mother mother-DAT
'"My mother", said she to her mother.' (Monod-Becquelin 1976:173)

E13 Antonius ad me ne nuntium quidem.
LAT Anthony:NOM.SG.M to 1.SG.ACC NEG messenger:ACC.SG.M even
'Anthony did not even send me a messenger.' (Cic.Att.10,13,2)[13]

The sentences in E11 – E13 give some evidence, from diverse languages, for the possibility of leaving the participatum unspecified, once the participants are fully developed. For the adequate appreciation of such constructions it is essential to be aware that they do not depend on any anaphoric deletion ("gapping") processes. They are full and independent sentences, albeit somewhat elliptic.

---

[12] Cf. Heidolph et al. 1981, ch. 2.3.2.3.3 on "instrumental-incorporating verbs" in German and Talmy 1985, §2 on other types of internal participants.

[13] Cf. Carvalho 1986:277-283 on this type of construction in Latin.

We may conceive of the inflation of the participatum as starting from zero. E11 – E13 then illustrate the zero pole. The first step towards the opposite pole involves what is called **logical predicates** in Seiler 1984, §3.3.1.

E14 The gardener is the murderer.

E15 Michael has a Ferrari.

E14 and E15 show situations with two participants which are directly related to each other, so that there is almost no participatum in which they are engaged. As is well known, in other languages such as Russian or Dyirbal, such situations would be expressed without a verbal predicate and thus be similar to the ones in E11 – E13. However, if observations about participatumless situations are to be fruitful for a classification of predicates, we must obviously make a difference between such types of situation which, in some languages, never require a verbal predicate (exemplified by E14f), and such types of situation which occasionally allow the predicate to remain implicit (exemplified by E11 – E13). The former will be close to the types which in some languages require a logical predicate, while the latter remain to be investigated empirically. Conceivably, the predicates which are omissible in constructions such as E11 – E13, although not forming a semantically homogeneous set, nevertheless have it in common that they are not very specific, so that they can indeed be guessed at from the constellation of participants.

We can skip some intermediary phases of inflation, among which the one illustrated by 6 would be important, but familiar, and come to advanced stages of the process.

E16 Mary is singing.

E17 khăw taam maa mў̆ankan
THA he follow come too
'he came along, too' (Kölver this vol., ch.15)

E18 Das Museum erfuhr eine Umgestaltung.
GER 'The museum was reshaped.'

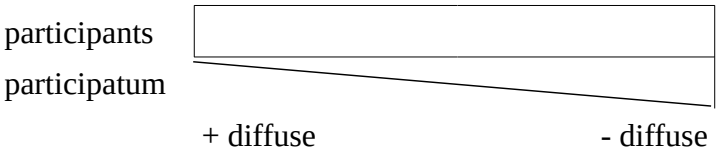
Whenever there is a paradigmatic relation between a simpler representation of a participatum and its expression by a complex construction, we can speak of its inflation. Thus, all of the sentences in E16 – E18 have simpler counterparts. Moreover, there is a gradual increase of lexical and grammatical material employed in this example series. The English progressive requires just an auxiliary for the effect distinguishing it from the simple present. In E17, the verb *taam* is dispensable, although in the construction at hand it carries the main lexical information, the verb *maa* being downgraded to a deictic. E18 is a wordy periphrasis of a simple passive construction, employing *erfahren* 'experience' as a function verb.

The examples have been selected in such a way that valency and, thus, participants remain unaffected by the inflation. It should be pointed out, however, that especially the serial verb construction as exemplified by E17 generally combines inflation of the participatum with the possibility of linking more participants to it; cf. Kölver this vol., ch.15 and Seiler 1984, §3.3.7. Thus, as one might expect, inflation of the participatum and exteriorization of participants are ultimately correlated.

Consequently, **hyperinflated predicates** will have to be subclassified into at least two kinds. Those which involve non-finite verb forms, such as those in E16 and E18, will generally not raise quantitative valency, but rather tend to reduce it. Those which involve serialization of "finite" verbs, as in E17, will generally allow the increase of valency.

The inflation of the participatum may now be visualized as the continuum represented in F7.

F7. *Inflation of the participatum*



F7 presupposes that the participants remain unchanged. When there is no participatum, as in E11 – E13, the situation is **diffuse**.

One might want to combine F6 and F7. However, as we have seen, exteriorization of participants and inflation of participatum are largely independent of each other. When only the participatum is expanded, the situation is compact. When only participants are expanded, it is diffuse. When both are expanded to comparable degrees, the situation may be called **balanced**. When neither is expanded, the situation is both compact and diffuse; i.e. there is no situation.

3.4. Dynamicity

Every situation is somehow related to time. However, its relationship as a whole to the time axis does not generally make a difference for the concept of the situation itself; that is something extrinsic. What makes a situation conceptually distinct is its internal time structure. Of especial relevance here are two distinctions introduced in Lyons 1977 (cf. F3), between stative and dynamic situations, on the one hand, and between durative and punctual situations, on the other.[14]

3.4.1. Stativity and dynamicity

1. The essential criterion for the distinction between stative and dynamic situations is whether there is or is not a change either inside the situation or at its temporal margin.[15] Here are some examples.

E19 a. Pavel professor.
RUS ‘Paul is a professor.’

b. Pavel professorom.
‘Paul is a professor.’

E20 brachia livent
LAT arm:NOM.PL.N blue:3.PL
‘the arms are blue’

E21 Mich hungert.
GER ‘I am hungry’

[14] Operational tests for the distinction between stative and dynamic situations and subtypes of these, as well as the systematic relationships between these concepts, are discussed in Vester 1983, ch.2.3-7, Groot 1983 and Foley & Van Valin 1984, ch.2.3.

[15] Heger 1967, §2.3.2, taking up earlier usage, accordingly speaks of "transformative and non-transformative processes".

E22 a. Paul lives in London.

b. This jacket belongs to Paul.

c. Paul resembles his mother.

E23 a. The sun shines.

b. My children grow incessantly.

c. Paul walked along the street.

d. John gave Mary the book.

E19 – E22, including English translations, illustrate stative situations, while E23 illustrates dynamic situations. A dynamic situation can be said to happen; a stative situation is just the case. As for the formal structure of the examples, we observe that a stative predicate may be a noun, adjective or verb, while a dynamic predicate is a verb.

2. The distinction between stative and dynamic situations is regarded by all authors as a dichotomy. However, if a sufficient number of examples is considered, gradations are readily observed. First of all, stative situations have to be subdivided into **properties and states**. We can approach this issue from E19 and its Spanish translation E24, which illustrate the **essence/ accidence** distinction, also called the distinction between **absolute and contingent states**.[16]

E24 a. Pablo es profesor.

SPA b. Pablo está de profesor.

One aspect of this distinction is that absolute states have no temporal limits, while contingent states are typically bounded, transient and, insofar, possess greater dynamicity. The means used to express the distinction testify to this. Thus, in Russian the instrumental (of E19b), not the nominative (of *a*) can help express arguments of dynamic predicates other than those in subject function. In Spanish, the verb *ser*, which forms absolute states and is illustrated in E24a, is a logical predicate without any dynamism (cf. §4.2), while the verb *estar*, which forms contingent states (E24b), is a position verb which also forms the progressive.

The alternation between an adjectival and a verbal predicate can also be related to the distinction between properties and states. While the English translation of E20 expresses that blueness is a property of the arms, this is not what is meant in the Latin original; there blueness is a state in which the arms are (perhaps by having been tossed). Again, while an interpretation of the English version of E21 might conceivably be construed in which it expresses a property, this is excluded for the German version, which necessarily expresses a state. Accordingly, the essence/accidence distinction can, in the present context, be rephrased as one between a property and a state. Properties are typically intrinsic, essential and eternal; states are typically superficial, accidental and transient (although lacking internal temporal structure). The most stative situations are properties; states are less stative!

Languages with a large and productive class of adjectives freely represent states as adjectives; cf. English *sultry, clean, fresh, asleep, happy* etc. Languages with closed classes of adjectives exclusively represent properties (such as ‘red’, ‘big’, ‘good’, ‘old’) as adjectives; cf. Dixon 1982, Givón 1979:320ff.

---

[16] Cf. Bolinger 1972, Comrie 1976, ch. 5.2.1.2 and Lyons 1977:717. Irish has a contrast which is semantically and formally similar to the Ibero-Romance *ser/estar* distinction; cf. the example in Comrie 1976:104 with E24.

3. The dividing line between stative and dynamic situations is commonly drawn between **states** and **processes**.[17] It can be defended on the basis of clear cases such as E20 vs. E25 (cf. Godel 1950). One operational criterion that is often adduced to distinguish stative and dynamic verbs in English is the possibility of forming the progressive aspect of the latter, but not of the former. In Mandarin, on the other hand, stative verbs cannot take perfective aspect. Such criteria are obviously language-specific. For example, E23a easily forms the progressive aspect in English; but the French *le soleil est en train de briller* is rather awkward. See Comrie 1976:35-37 for some discussion.

This distinction, again, is not actually an either-or issue. The succession of examples in E23 mirrors a progression of increasing dynamicity. The situation of E23a is on the borderline between stative and dynamic (does it happen, or is it just the case?). There are clear changes in *b*, but they are probably gradual, steady and slow. In *c*, the change is more salient; but it is certainly most radical in *d*. The problem evidently consists in making the crucial criterion of change explicit. *Prima facie*, no change is discernible in E23a (or in situations based on such concepts as 'freeze', 'sleep', 'blossom'). We may follow Comrie 1976, ch.2.3 by stipulating that a process, but not a state, requires a continual input of energy in order to maintain itself. However, this does not reduce the gradual nature of the difference.

The situations in E22 differ from the preceding ones in that they involve more than one participant. The dynamic situations in E23 involve from zero (or at any rate implicit) to three participants. The **number of participants** thus does not appear to constitute a sharp difference between stative and dynamic situations. Even for the three-participant situation in E23d we can find a stative counterpart, e.g. *Mary owes John a book.*

On the other hand, all adjectives and many avalent and monovalent verbs are stative predicates, while most bivalent and almost all trivalent verbs are dynamic predicates. Most property predicates take only one argument, 'resemble' being an exception. States may be true of one or more arguments. Some languages have relational adjectives, such as German *teilhaftig* 'sharing in', *mächtig* 'master of' etc. These can only express states. There is thus an increase in the number of participants corresponding to the increase in dynamicity observed in E23.

It thus appears that the more participants share in a participatum, the fewer are the cognitively different situations which may be essentially, timelessly true of them. That is, **multi-participant situations tend to be dynamic**. As an additional piece of evidence for the correlation, consider the passive, which typically combines the effects of valency-reduction and stativity.

The most important operations converting states into processes and vice versa are the **inchoative**[18] and the **resultative**, respectively.

E25 brachia livescunt
LAT arm:NOM.PL.N blue:INCH:3.PL
'the arms get blue'

E26 My children are grown up.

E27 a. Der Arm brach.
GER 'The arm broke.'

---

[17] It should be clear that the term `process' is here used in a broad sense which does not oppose it to 'action'.

[18] Somewhat ironically in terms of etymology, most of the so-called inchoative verbs are in fact terminative, at least potentially.

b. Der Arm ist gebrochen.
'The arm is broken.'

E25 shows an inchoative derivation on the basis of E20 and thus presents the process counterpart to the latter (E35a would be an inchoative example from English). Conversely, E26 shows a resultative construction corresponding to E23b; it denotes, thus, a state. Somewhat more regular is the stative (resultative) passive in German (formed with the auxiliary *sein*): while E27a is dynamic, *b* is stative.

3.4.2. Telicity

In a first approach, we may follow Lyons 1977 (cf. above §1.2)[19] in making a further distinction comprising all the situations and paralleling in part his stative/dynamic distinction. Situations may be either durative or **punctual**; i.e. they may be considered as having temporal extension or instead as momentary. Durative dynamic situations are called **processes**, punctual situations are called **events**. Processes are said to take place, while events are said to occur. The systematic relationships between stative and dynamic situations, on the one hand, and durative and punctual situations, on the other, are as shown in F3.

Process expressions may be modified by adverbials of temporal extension (*how long, three years, three seconds*), while event expressions may be modified by adverbials of instantaneous occurrence (*at what time, at midnight, suddenly, again and again*). Consequently, E19 – E23c are durative situations, while E23d is an event. E28 presents more examples of events.

E28 a. Paul arrived late.

b. Paul died soon.

So far we have a continuum of dynamicity which starts from properties and leads, via states and processes, to events. This, however, may be refined by introducing the concept of **telicity** (cf. Chung & Timberlake 1985, ch.2.1). A situation is called **telic** if it is bounded at the start or at the end. It is **atelic** if it is open at both sides. Expressions of telic situations are incompatible with such diagnostic frames as '__ until/since five o'clock' or '__ for three hours', which presuppose potentially unbound duration and are therefore fine for atelic situations.

In German, two grammatical regularities separate telic from atelic situations. First, of intransitive verbs, only those in atelic situations form their perfect with *haben* instead of *sein* (cf. Heidolph et al. 1981, ch.3.1, §114). Cf. the *a*- and *b*-propositions in 29 and 30.

E29 a. Sie hat geblüht.
GER 'She/it has blossomed.'

b. Sie ist erblüht.
'She/it has burst open to full blossom.'

E30 a. Wir haben ausgiebig getanzt.
GER 'We danced extensively.'

b. Wir sind durch den Saal getanzt.
'We danced through the hall.

Second, only transitive verbs that express a telic situation form a stative passive.

---

[19] On telicity, cf. also Comrie 1976, ch.2.2, Groot 1985 and Pinkster 1988, ch.11.1.1.

E31 a. Der Schlüssel ist gefunden.
GER ‘The key is found.’

b. *Der Schlüssel ist gesucht.
‘The key is searched.’

E31a is telic and therefore fine; *b* is atelic and therefore impossible. Cf. Heidolph et al. 1981, ch.3.1, §99.

Several among the traditional aspectual characters quantify over situations. In the present context, they will be considered as subclasses of the telic and atelic classes. The following are of some relevance: A situation is **semelfactive** if a process that is typically durative or iterative only occurs in one instance. It is, thus, a subtype of punctual situations. The notion will normally be relevant only if there is a semelfactive derivation converting durative into punctual predicates, as in Russian *kolot’* ‘chop’ (durative) → *kol’nut’* ‘cleave’ (semelfactive).

A situation is **iterative/frequentative** if it recurs in several instances. The notion will normally be relevant only if there is an iterative/frequentative derivation which renders a predicate durative. Russian *pet’* ‘sing’ (durative) → *pevat’* ‘sing repeatedly’ (iterative) and German *streichen* ‘graze’ (punctual) → *streicheln* ‘pet’ (iterative) are some examples.

Punctual predicates are often used iteratively without any derivational expression. Typical examples designate movements which are commonly repeated in order to produce effect. English *scratch*, *knock*, *box*, for instance, should probably be analyzed as basically punctual verbs whose frequent durative use is brought about by an unexpressed iterative conversion.

A telic situation which is bounded at the end is called **terminative**[20]. A terminative process is one which has an inherent terminal point towards which it proceeds. It terminates in crossing this boundary and is then completed (cf. Lyons 1977, ch. 15.6 on accomplishments). Non-terminative processes can in principle continue indefinitely. Although they can stop at any time, the notion of completion is inapplicable to them. Consequently, it makes sense to inquire whether a terminative process has finished or how long it took, or to insert an expression denoting it in the frame ‘it will have _ed by five o’clock’, whereas all this is inapplicable to non-terminative processes. In the series of E32 – E34, the *a*-examples are durative, while the *b*-versions are terminative.

E32 a. Paul wandered.

b. Paul wandered to Loch Ness.

E33 a. Paul schrieb.
GER ‘Paul wrote/was writing.’

b. Paul schrieb den Aufsatz.
‘Paul wrote the article.’

c. Paul schrieb an dem Aufsatz.
‘Paul was writing the article.’

E34 a. Das Haus brannte.
GER ‘the house burnt’

b. Das Haus verbrannte.
‘the house burnt down’

[20] Another frequently used term is `resultative', e.g. in Comrie 1976:20.

Durative and terminative predications also react differently to negation. If, e.g., E34a is negated, it is denied that the house even caught fire, let alone that it burnt down. If, however, E34b is negated, it is possible (and normally even presupposed) that the house did burn; what is denied is only the completion of the process. The negation thus applies to the telicity itself. The negation of a telic predication is not a telic predication and is therefore compatible with the durative test frames mentioned above (cf. Daneš 1987:15f, Pinkster 1988:328f).

As is clear from the examples, there are regular means of syntax and derivation to convert a non-terminative into a terminative predicate. Expectably, a motion process without specified goal, as in E32a, is non-terminative, while the same process with specified goal (*b*) is terminative. While the process without specified patient in E33a and also the one with a partially affected patient in *c* are non-terminative, specifying the patient as totally affected, as in *b*, makes the process terminative.[21] Alternatively, the verb may take on a terminative derivation, as in E34b; this, in turn, implies total affectedness of the patient.[22]

Predicates such as 'burst' or 'find' have **egressive** aspectual character. This is sometimes equated with terminativity. However, a terminative process reaches a built-in end by some kind of consumption, while egressive situations consist in a catastrophe after a preparatory process which they may presuppose (in this case, 'swell' and 'search') but which does not necessarily reach such an end. Although the distinction is not clear in all cases, in principle egressive situations are a subtype of punctual situations.

Some expressions are ambiguous as to terminativity.

E35 a. The shoes blackened.

b. John blackened the shoes.

In E35, both situations are processes, irrespective of number and agentivity of participants. However, both may be either terminative or non-terminative. Both may be modified by both of the adverbials *for three hours* (non-terminative) and *in three hours* (terminative). This correlates, again, with partial vs. total affectedness of the patient.

A telic situation which is bounded at the start is called **ingressive**. An ingressive situation consists in crossing the boundary from absence to presence of the process. A sentence expressing it is naturally inserted in a frame such as 'At five o'clock finally _'. The question of whether it has finished is not naturally applicable to an ingressive process. Here are some examples (more in Comrie 1985:342f).

E36 a. Das Feuer brannte.
GER 'The fire burned.'

b. Das Feuer entbrannte.
'The fire started to burn (blazed up).'

E37 a. Paul reiste.
GER 'Paul traveled.'

b. Paul reiste ab.
'Paul departed.'

---

[21] Such syntactic regularities are discussed in Vester 1983:9f and the literature cited there.

[22] Ikegami (1988) claims that English and Japanese differ by the fact that a set of verbs which are otherwise translation equivalents are systematically terminative in English but non-terminative in Japanese. This appears to need further study, especially as the interplay between aspect and aspectual character is not taken into account in that article. For instance, imperfective aspect may induce a conative reading of an otherwise terminative verb (cf. Daneš 1987:15).

In E36 and E37, the *b*-sentences are ingressive versions of the *a*-sentences. A language may thus have a derivational operation that affords such a conversion.

Verbs may be systematically ambiguous between a durative and an ingressive reading. This appears to be the case for a large amount of verbs in Arabic (cf. Kaye 1989:682). Generally, use in different aspects will disambiguate the aspectual character. Thus, in Yucatec Maya as in several other languages, all verbs of body position, such as *wa'l* 'stand (up)', *chil* 'lie (down)', are ambiguous in some aspects. However, the completive and the imperative determine the ingressive reading. In Spanish, there are several verbs such as those in F8 for which imperfective aspect determines a durative reading, while perfective aspect determines an ingressive reading (cf. Heger 1967, §2.3.2).

F8. *Durative vs. ingressive in Spanish*

imperfective	perfective
tenia 'I had'	tuve 'I got'
sabia 'I knew'	supe 'I learnt'
conocia 'I knew'	conoci 'I got acquainted'

If a situation is bounded at both the start and the end, there is neither a process coming to an end in it nor a process starting with it. Instead, there is just an event. Therefore, such a situation is **punctual**. The properties of punctual situations have been discussed above, with reference to E28. Here we see that the distinction between telic and atelic can replace the one between punctual and durative, since **durative situations are atelic and punctual situations are bilateral-telic**.[23]

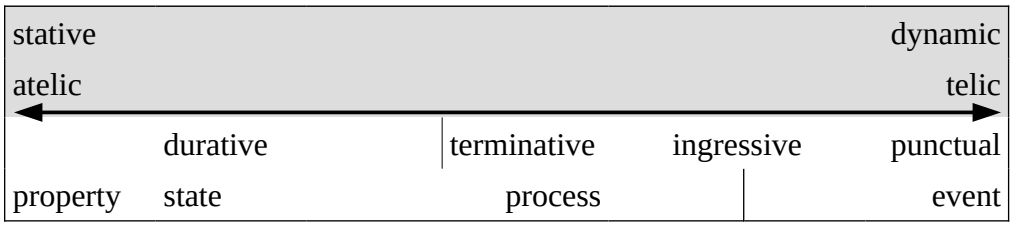
However, we started out with a continuum; and it remains to be seen whether the three classes of telic situations that we found may be arranged on a durative-punctual continuum. In particular, we have to ascertain whether unilateral telic situations (given that they are dynamic) are more similar to processes or to events.

On the one hand, expressions denoting telic situations do not admit of duration adverbials such as *how long, three years, three seconds*, which were named above as criterial for processes. This would indicate that they are events. However, we have to differentiate here between terminative and ingressive situations. We have seen that a terminative situation takes a certain time and then finishes. Just like an event, an ingressive situation cannot naturally be said to finish. Although an expression denoting it can be embedded in a frame such as 'How long did it take to _', the time referred to in such a question is not taken by the situation itself, but by preparatory processes leading to it. Before its completion, a terminative situation lasts a certain time; this is what it shares with processes. Conversely, an ingressive situation does not necessarily last on after its start. An expression denoting it invites the inference that the process continues afterwards; but it does not entail this.

All this amounts to the conclusion that an ingressive situation is more like an event, while a terminative situation is halfway between processes and events. Unilateral-telic situations are therefore further evidence for the continuous character of the dynamicity parameter. We can now represent this continuum in F9.

[23]This involves a slight extension of traditional usage, since telicity has been conceived as necessarily involving a process, one of whose boundaries is specified; cf. Comrie 1976:47. If breaks with terminological tradition are to be avoided, one might substitute *bounded* for *telic*.

F9. *Dynamicity*



While it may be left to speculation what would come beyond the dynamic pole of F9, it seems clear that F9 may be prolonged beyond the stative pole. Namely, F9 may be conceived as the right half of a continuum from entities to events, also known as **noun-verb continuum** (cf. Drossard this vol., ch.5, §4.1 and Broschart this vol., ch.3). The main factor underlying this extended continuum is the time-stability of the concept involved, which decreases from the left to the right pole (cf. Givón 1979, ch.8). Entities, however, have referentiality as a constitutive property, which plays no role in F9.

3.5. Participant properties

Not much need be said here about the ways in which participant properties determine the nature of situations. As we are primarily interested in predicate classes, only such participant properties need be considered as may be coded in predicate lexemes. Consequently, a couple of features such as definiteness, which generally do play a role in participation, may be left out of consideration here.

The main division is between **propositional** and **non-propositional** participants (also called abstract vs. concrete). If a participant is itself a proposition, we are dealing with a complex thought in the sense of §2.1. It is immediately obvious that a proposition may have entirely different kinds of semantic relations to the participatum than a non-propositional participant. It may, for instance, be the reason, condition or consequence of a situation, but not the experiencer or location; and although it may be controlled, it may not be affected by the situation. Consequently, all languages have two major groups of predicates, those that can take propositional arguments and those that cannot. To the former group belong *possible, capable, influence, wish*, to the latter group *violet, sleep, roll, scold*. In the former group, some must, some need not take a propositional argument. *Intend* needs a propositional object, *consider* may take a propositional or a non-propositional one. Thus, some predicates bridge the distinction between these two classes in that they allow both.

'Proposition' will be used as a cover term for a rather heterogeneous set of arguments. Necessary subdivisions include the distinction between second and third order entities (Lyons 1977, ch.11.3). The latter may have an existence-presupposition associated with them, which differentiates between **factive and non-factive predicates**.[24]

Inside the group of non-propositional participants, the major subdivision is between spatial and non-spatial participants, which will here be called **locations** and **entities** (cf. Lyons 1977, ch. 12.3).

[24] Among the vast literature, Kiparsky & Kiparsky 1970 as a seminal study of the above alternative, Givón 1980 as a typological investigation of verbs with propositional arguments in general and Bolkestein 1990 as a recent investigation of various kinds of propositional arguments may be singled out.

E38 a. Peter is cold.

b. London is cold.

E39 a. There is much traffic in Peter.

b. There is much traffic in London.

The predicate *is cold* in E38a relates to an entity, in *b* it relates to a place. Accordingly, the two sentences have different paraphrases, namely *Peter feels cold/behaves coldly* vs. *It is cold in London.* At the same time, the distinction between locations and entities provides a particularly clear case for the view that all such distinctions are not in the nature of things, but in the way they are conceived. Ordinarily, there can be traffic only in a location, as in E39b. If this predicate is applied to an argument such as *Peter* in E39a, it forces the argument's reinterpretation as a location. In an appropriate context, one might even arrive at a location interpretation of E38a.

Again, the often-treated classes of verbs of position and motion can be seen as predicates with the essential characteristic of taking a location as an argument. That this is part of their meaning can be proven by examples such as E40.

E40 a. Paul went to Peter.

b. Paul went home.

A participant which is primarily conceived as an entity, as *Peter* in E40a, needs to be transformed into a location if it is to serve as an argument of a motion verb. A participant which is primarily conceived as a location, as *home* in *b*, does not need any such apparatus. While in English there are few nouns which behave like *home*, in many other languages, among them Yucatec Maya, this syntactic treatment of location nouns is quite general.

In expressions of position, motion and transport, the location often remains an internal argument. In the classification of §4, it will nevertheless be assumed that such an argument belongs to the semantic valency of such predicates.

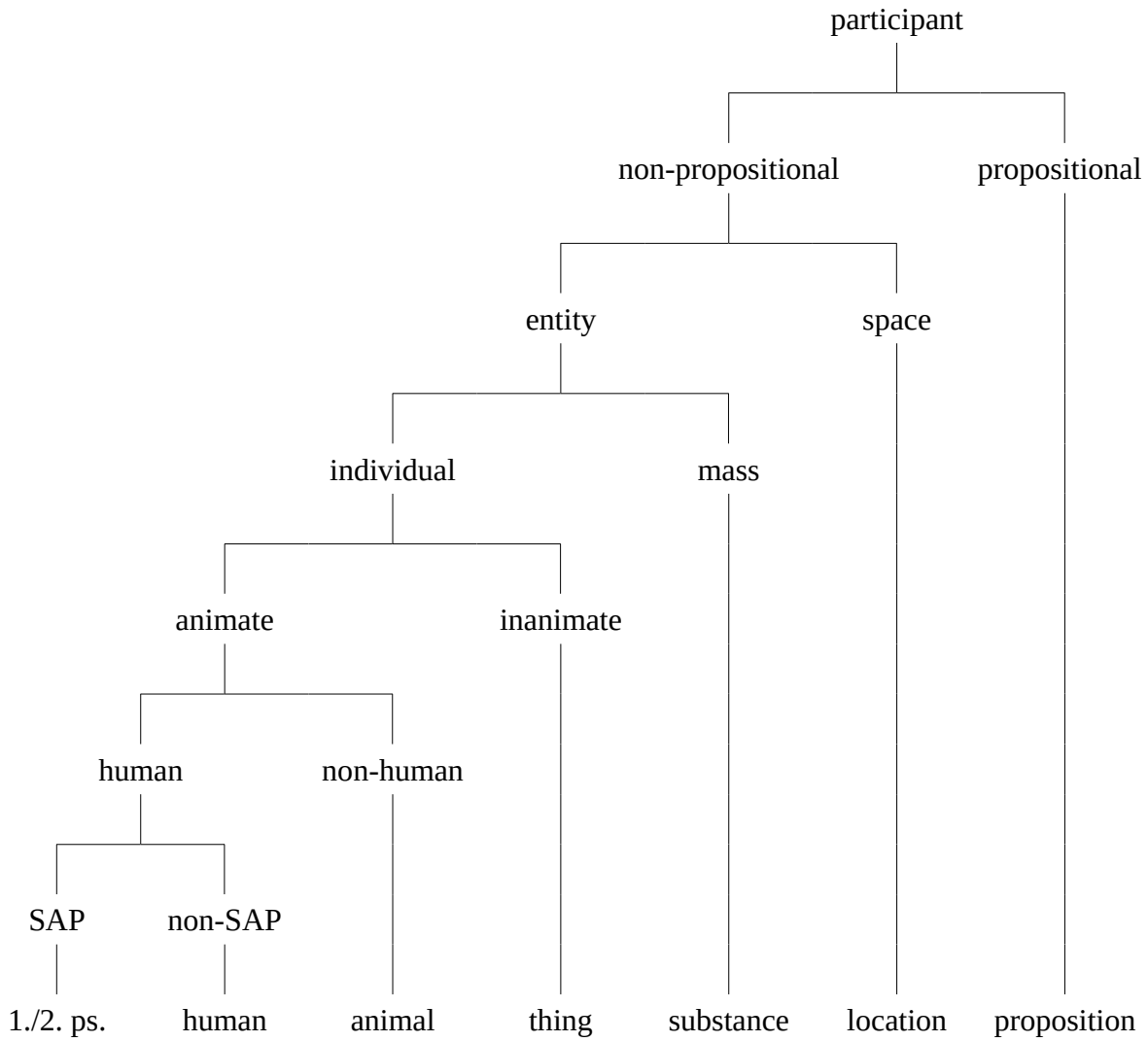
Within the class of entities, the next subdivision is according to **animacy**. This is a scale leading from speech act participants, who have the highest degree of animacy, via other human beings, different kinds of animals to things and unindividuated masses, which have the lowest degree. This is too well known from the literature to require treatment here. Multiple evidence, such as **differential object marking** (cf. Bossong 1985), **noun incorporation** (cf. Lazard 1984), **split ergativity** (cf. Tsunoda 1981), **inverse conjugation** (cf. Serzisko this vol., ch.9), testifies to the importance of animacy in participation.

The higher a participant on the animacy hierarchy, the more likely he will be exteriorized. The examples of pregnant verbs and internal participants seen in §3.2 and the facts known about noun incorporation confirm this assertion. Quite in general, it may be said that, *ceteris paribus*, entities high in animacy enjoy a greater degree of independence as against the participatum than entities low in animacy. Also, if there is a participant of high animacy in a situation, there is more variability in the choice of all the other parameters than if there is none. Psychic states and processes then become possible, and with them predicates of perception, cognition, emotion, communication and the like. Moreover, one can get trivalent predicates only if one participant is animate, preferably human.

Participant properties constitute, at the same time, a hierarchy and a continuum. A hierarchy, because each of the subdivisions within animacy and of those discussed before obtains only inside a class produced by a higher subdivision. A continuum, because there is a gradual decrease of saliency and cognitive independence from speech act participants (SAP in F10)

via diverse kinds of entities down to locations and finally propositions. The hierarchy cannot be reduced to the continuum, because some of the generalizations involving animacy in the various empirical domains mentioned in the preceding paragraph are valid only for entities; i.e. locations and propositions do not in every respect behave like entities of low animacy. I therefore represent participant properties in the form of F10.

F10. *Participant properties*



The picture is not complete; finer distinctions are possible. The predicate classes that can be defined with respect to F10 are those commonly defined on the basis of **selection restrictions.** The examples in E41 illustrate verbs with direct objects belonging to each of the classes of F10 in turn. The first class cannot be illustrated since there is, in English, no verb which demands a speech act participant as its object.

E41 a. Paul flattered Peter.

b. Paul slaughtered the sheep.

c. Paul impregnated his coat.

d. Paul spilled the soup.

e. Paul entered the room.

f. Paul proposed a modification.

It is, thus, easy to see how predicate classes such as human-patient verbs, animal-patient verbs etc. can be defined on the basis of F10.

Participant properties have no derivational relevance. While there are operations of word formation to change such properties as exteriorization, dynamicity, telicity, control and affectedness, there is no such operation which could be applied, e.g., to a verb that requires an animate undergoer such as *help* to enable it to take an inanimate undergoer. Instead, this is always achieved by metaphorical extension, thus, by a purely semantic operation. Apparently, participant properties are so intimately bound up with the very nature of the predicate meaning itself that differences in participant properties exhibit too little systematicity to enable derivational operations to change them.

3.6. Involvement

3.6.1. Involvement and distantiation

The participants have been established by exteriorization, and their intrinsic properties have been specified. However, nothing has been said so far about their relations to the participatum. No matter how many participants there are, the relation of each one to the participatum determines the nature of the situation. In the following sections, the nature of such relations will be treated. It will be presupposed that the situations are balanced in the sense of §3.3.

From valency grammar, the distinction between **actants** and **circumstants** is familiar.[25] It has long become clear that this is a gradual distinction. At the cognitive level, there is no sharp borderline between a participant that is involved in the situation and one that is peripheral, just "watching", as it were. Similarly, there is no sharp borderline, at the structural level, between an actant in the valency-governed function of a complement and one in the valency-independent function of an adjunct. The many criteria that have been proposed lead to fuzzy and mutually conflicting results. This makes them no less valuable, once one recognizes that the concepts to be operationalized by them are in themselves gradient.

This implies that not just the borderline between involved and not-involved participants is fluid, but that there are, within both of the classes of the traditional actants and circumstants, different **degrees of involvement**. There is, thus, a continuum leading from maximal involvement of a participant in a situation to its maximal distantiation from it. The pole of maximal involvement is reached when the situation is not thinkable without the participant in question. The pole of maximal distantiation is reached when the participant is actually more deeply involved in a connected situation than in the situation at hand. This may be the case in complex, multi-propositional thoughts (in the sense of §2.1). The whole matter of involvement is treated under the heading of **centrality/centralization of participants** by Broschart and Drossard in this vol., ch. 2 and 14.

Participant relations are partly defined by the degree of their involvement in the situation. This means that one and the same participant relation cannot, ceteris paribus, alternatively be involved to different degrees. **Involvement vs. distantiation primarily manifests itself in syntagmatic contrast, not in paradigmatic opposition.** The degree of involvement of a participant is assessed primarily not with reference to a paradigmatic alternative, but with reference to the degree of involvement of other participants in the same situation, which may be stronger or looser.

This entails two things. First, there is little, if any, variation concerning involvement vs. distantiation in one-participant situations; there is little actance variation in monovalent verbs.

[25]Recall that `actant' was defined without reference to this distinction in §2.2.

Second, whenever the degree of involvement of one participant in a situation is varied, more often than not the involvement of another participant is altered, too. What varies is not only the relation of the first participant to the participatum, but, simultaneously, its relation to the other participants.

Once the degree of exteriorization of the participants is kept constant, i.e. the situation is balanced, voices and most of the valency-changing derivations are actually concerned with involvement vs. distantiation of participants. In the more recent literature, they are often described as processes of **promotion vs. demotion** of arguments. It is impossible to survey them all.[26] We will abide by a few illustrative examples and start with the distinction between the **direct and indirect object**.[27]

E42 a. Paul folgte dem Einbrecher.
GER ‘Paul followed the burglar.’

b. Paul verfolgte den Einbrecher.
‘Paul pursued the burglar.’

E43 a. Paul diente seinem Herrn.
GER ‘Paul served his master.’

b. Paul bediente seinen Herrn.
‘Paul attended his master.’

In E42 and E43, the *a*- and *b*-sentences differ by showing more indirect vs. more direct involvement of a participant in the situation. This may be assumed to be the functional basis of the traditional distinction between direct and indirect object (whose structural correlates are, of course, accusative vs. dative and availability vs. non-availability for passivization).

A similar functional distinction holds between the direct and the prepositional object, as in E44 and E45.

E44 a. Paul herrschte über die Teutonen.
GER ‘Paul reigned over the Teutons.’

b. Paul beherrschte die Teutonen.
‘Paul governed/controlled the Teutons.’

E45 a. Paul schimpfte mit seiner Frau.
GER ‘Paul scolded at his wife.’

b. Paul beschimpfte seine Frau.
‘Paul insulted his wife.’

The semantic difference between the *a*- and *b*-versions is as above.
In E42 – E45, the degree of involvement of a participant is changed without a concurrent alternation in the involvement of the other participant. It is, nevertheless, not a *ceteris-paribus* change, as the verb meaning is also changed by the derivation. However, when there are more than two participants, interrelated changes in the participants can be observed, as in 46f.

---

[26] Cf., i.a., Chafe 1970, ch. 11, Comrie 1985, §3 and Drossard this vol., ch.14 for a survey.

[27] The functional correlates of the opposition between the direct and indirect object and of the derivational operations relating them are dealt with extensively in Weisgerber 1958. The concept of involvement is used in Payne 1982 to differentiate between direct and indirect object agreement prefixes in Chickasaw on a functional basis.

E46 a. Paul schenkte dem Mann ein Buch.
GER ‘Paul presented a book to the man.’

b. Paul beschenkte den Mann mit einem Buch.
‘Paul presented the man with a book.’

E47 a. Paul stahl dem Mann ein Buch.
GER ‘Paul stole a book from the man.’

b. Paul bestahl den Mann (?um ein Buch).
‘Paul robbed the man (of a book).’

Here the promotion of one argument to the core entails the demotion of another argument.

Indonesian has a derivation which is essentially functionally equivalent to German *be-* prefixation, namely *-kan*-suffixation.

E48 a. Saya akan mem-beli buku untuk orang itu.
IND I FUT ACT-buy book for person DEF
‘I will buy a book for the man.’

b. Saya akan mem-beli-kan orang itu buku.
I FUT ACT-buy-APPL person DEF book
‘I will buy the man a book.’

In E48a, *untuk orang itu* is a benefactive adjunct; in *b*, it has been promoted to direct object. Similar derivations are familiar from Bantu languages; cf. Swahili *-andika* ‘write’ vs. *-andikia* ‘write to somebody’. The term traditional in African linguistics, **applicative**, may be safely generalized to encompass the German *be-*, the Indonesian *-kan* and similar derivations. We may call this operation applicative transitivization.

Just as in the other cases, the existence of an operation which achieves a greater involvement of a participant in the situation may be used, methodologically, to motivate the claim that the degree of involvement is not an aprioristic idea that we might think up by interpreting inherited terms such as ‘direct vs. indirect object’, but rather something actually operative in the language.

Distantiation of participants occurs in the sphere of agency, too. **Causativization** has mostly been analyzed as the embedding of an already complete proposition under a higher causative predication, thus involving the addition of a causer to the arguments and, if expressed by a verbal derivation, a valency increase. However, it may be looked at from a different angle.

E49 a. ara-pyro
TAP AG.1.SG+PAT.2.SG-help
‘I help you’

b. (Ko’ã-we) ara-pyro-akan
Ko’ã-DAT AG.1.SG+PAT.2.SG-help-CAUS
‘I got you some help (by Ko’ã)’ (Leite 1987:17)

E50 Paul arbeitet nicht, er läßt arbeiten.
GER ‘Paul does not work, he has [others] work.’

E51 a. Ich regele das.
GER ‘I fix that.’

b. Ich kriege das geregelt.
‘I get that fixed.’

In Tapirapé causative constructions based on transitive verbs (cf. E49), the causee is demoted to an optional indirect object. The causative suffix may here be taken to signal that the agent is only indirectly involved in the situation. The same is true of many other languages; cf., e.g., Derbyshire 1979:135 for Hixkaryana. In the German periphrastic causative construction involving *lassen* (cf. E55 in §3.6.2), a human causee may often be omitted. Since the causer takes the position of the subject, the result looks like an alternation between a non-causative and a causative verbal, with the subject changing its role from a direct agent to a mediate agent. E50 shows what is meant. In another periphrastic construction, exemplified in E51, the simple verb is substituted by the causative auxiliaroid *kriegen* plus the passive participle of the full verb. In both cases, the result is that the agent is less directly involved in the situation; he is at one remove from the situation instigated by him.[28]

So far, we have seen operations of increasing involvement in the non-agent sphere and operations of decreasing involvement in the agent sphere. An operation that affords both increasing involvement of the agent and distantiation of a non-agent is the **antipassive**.

E52 a. ba-yi bargan ba-ŋgul yaṛa-ŋgu djurga-ɲu
DYI D2.CL1-NOM wallaby D2.CL1-ERG man-ERG spear-REAL
'man is spearing wallaby'

b. ba-yi yaṛa ba-ŋgul bargan-du djurga-na-ɲu
D2.CL1-NOM man D2.CL1-INSTR wallaby-INSTR spear-ANT-REAL
'man is spearing wallaby' (Dixon 1972:65)

In E52a, the patient is the central participant. In *b*, it has been demoted to a marginal position, where it is optional. At the same time, the agent is getting more involved, becoming the primary participant. Thus, this operation, again, changes the degree of involvement of one participant in concomitance with a change in the degree of involvement of another participant; agent and patient almost swap their positions vis-à-vis the participatum in E52.

The direction of derivation – from more involved to distantiated or conversely – obviously depends on the lexical structure of the basic verb. Once a basic or derived verb is chosen, the distance of each participant is fixed. Together with the position of the participant on some parameters yet to be discussed, this defines a participant relation. The latter, in turn, codetermines its grammatical relation. We have seen so far that subject/ergative and direct object/absolutive are most intimately involved. Next comes the indirect object, then other complements as may be joined to the verb by more concrete cases and adpositions. The lowest degree of involvement is reflected in adjunct relations. The cases which express such relations may be ordered on a scale from most grammatical to most concrete, with the most grammatical cases commonly having zero expression (cf. Lehmann 1983, §4). The result is "daß der am stärksten desemantisierte Kasus auch der 'zentralste' ist", as has been assumed in Drossard this vol., ch.14.

With all this, the continuum of involvement vs. distantiation takes the form given in F11 (where 'actant' is, exceptionally, used in the Tesnièrian sense).

[28] Cf. Seiler 1973 for a non-causative analysis of the construction in E51.

F11. *Degree of involvement*

maximal		minimal
◄		►
'actant'		'circumstant'
complement		adjunct
zero case	grammatical cases	concrete cases

A word of clarification on the relationship between exteriorization and involvement should be added. As exteriorization is the gradual evolution of a participant out of the participatum, it might be thought that distantiation (the converse of involvement) is nothing but a continuation of exteriorization. This is not the case. Exteriorization individualizes a participant. It renders it referentially independent vis-à-vis the participatum and, correspondingly, renders the actant syntactically independent vis-à-vis the verb. Involvement is the degree of intimacy with which a participant takes part in the situation. Both complete and incomplete exteriorization (as, e.g., in incorporation) are possible with both 'actants' and 'circumstants'. This shows that the two operations are essentially mutually independent, except that involvement cannot be ascertained if participants have not been exteriorized.

The predicate classes derivable from F11 are essentially valency classes, where purely quantitative valency is enriched by information about the degree of involvement of each argument. That is, each of the exteriorized participants contributes to the valency if it is at least moderately involved. Thus, we get predicates with one, two and three arguments of some degree of involvement.

3.6.2. Control

1. Control is a multi-factor and, consequently, gradient concept.[29] The general idea is that a participant has control over a situation if he is responsible for it. This implies that it is within his power to initiate the situation, to let it realize and to stop it. It presupposes that he is involved in the situation at least to some degree, although mediate control is possible.

E53 a. Paul grew.

b. Paul cried.

E54 a. Paul suffered a stroke.

b. Paul executed a stroke.

In the *a*-sentences, the single participant of E53 and the first participant of E54 have little control over the situation; in the *b*-sentences, they have a high degree of control.

This difference is not visible in the structure of these examples. However, there are operational criteria for the ascertainment of control in a situation. One is the imperative test (cf. Dik 1978 and Vester 1983:11f). If the imperative is possible and can designate a true command, then the addressee can control the situation. Similar tests involve the embedding of the sentence to be tested in a frame such as 'X hesitated to __', as one can only hesitate over something which one can control. Also, if the predication can be modified by an adverbial like

[29] The idea of analyzing participant relations as constituting a continuum of control appears to go back to Givón 1975. Cf. also Comrie 1981, ch. 3.1, Drossard 1983 and DeLancey 1985.– Control in the present sense is not to be confused with control as a syntactic relation between an NP, actant of a higher control verb, and an argument place in the dependent complement (clause).

'deliberately', then it designates a controlled situation (cf. Givón 1975). The application of such tests to E53 and E54 brings out a clear difference in control.

A somewhat different test is passivization. E54b passivizes easily, while a passive version of *a* is awkward. Similarly, of the German verbs corresponding to those in E53, *schreien* passivizes easily, whereas *wachsen* is hardly amenable to passivization.[30]

Differences in control manifest themselves more directly in various sectors within participation. One sector that has been studied from this point of view is **causation**.[31] For instance, the sentence in E55 has two senses.

E55 Der Professor ließ die Studenten eine Hausarbeit schreiben.
GER 'The professor had/let the students write a term paper.'

On the coercitive reading, the students have less control over their writing the term paper than on the permissive reading. In Japanese, this difference may be brought out by using the case markers *o* (ACC) vs. *ni* (DAT) on the causee.

E56 Watasi wa kodomo o/ni dan kara ori-sase-ta.
JAP I TOP child ACC/DAT platform ABL descend-CAUS-PAST
'I had/let my child get down from the platform.' (Matsubara this vol., ch.19)

Structures such as the one in E56 thus provide evidence for the hypothesis that participant relations are ordered on a continuum of control. Here, the patient, marked by the accusative, has less control over the situation than the addressee, marked by the dative.

Another area where differences of control manifest themselves grammatically are languages with **active vs. inactive constructions** (cf. Klimov 1977). Here are some examples from Lakhota (from Van Valin 1977: 8f).

E57 a. ma-hã'ske
LAK INACT.1.SG-tall
'I am tall'

b. ni-hã'ske
INACT.2-tall
'you are tall'

E58 a. wa-hi'
LAK ACT.1.SG-arrive
'I arrive'

b. ya-hi'
ACT.2-arrive
'you arrive'

E59 a. wã[chi']yãnke
LAK see[INACT.2+ACT.1.SG]
'I see you'

b. wã[ma'-ya]lake
see[INACT.1.SG-ACT.2]
'you see me'

---

[30] Cf. Heidolph et al. 1981, ch. 3.1, §98 and, for the similar situation in Latin, Lehmann 1985, §2.2.1.

[31] Cf. Comrie 1981, ch. 8, and Matsubara this vol., ch.19.

Arguments of one- and two-place predicates may be active or inactive. There are two paradigms of personal affixes, for active and inactive arguments. E57 and E58 show an inactive and an active monovalent predicate, resp., with prefixes of the corresponding series. E59 shows a two-place predicate with infixes both for the inactive and the active arguments. While the person combination in E59a is expressed by a portmanteau morpheme, the person combination in *b* is expressed as would be predicted on the basis of E57a and E58b.

The customary terms ‘active vs. inactive’ clearly refer to a control distinction. This is not reducible to the opposition between agent and patient or anything like it. The active participant in the situations of E59 is not an agent; however, he has more control of the situation than the inactive participant. This makes it clear that ‘active/inactive’ are grammatical relations which neutralize certain semantic distinctions just like any grammatical relation does. For instance, the verb ‘see’ in Lakhota, as in E59, conjugates like ‘kill’, although its actor has a lower degree of control. Thus, activeness assignment is partly conventional. Cf. Mithun 1988:2f for the same phenomenon in Cayuga.

There are also operations to alter the control properties of a predicate. An important one is **deagentivization**, as illustrated in the following examples:

E60 a. segodnja ja ne rabotaju
RUS today I not work:PRS.1.SG
‘today I do not work’

b. segodnja mne ne rabotaetsja
today me not work:PRS.3.SG:REFL
‘today I do not feel like working’

E61 a. olvidé eso
SPA forget:PAST.1.SG that
‘I forgot that’

b. eso se me olvidó
that REFL me forget:PAST.3.SG
‘that got forgotten to me’

The structural process leading from *a* to *b* in E60f consists in reflexivizing the verb and demoting the erstwhile subject to indirect object function. In the case of a transitive basis, as in E61, the erstwhile object is promoted to subject function. The whole process is not altogether unlike passivization. However, the semantic effect of deagentivization is one of diverting control (and, thus, responsibility) from the human participant.

Just as with the distinctions examined before, besides such more or less regular relationships there are also distinct lexicalizations. For instance, German has two morphologically unrelated verbs to translate E61a and b, *vergessen* and *entfallen*.[32] Again, the Lakhota verb for ‘arrive’, to judge from E58, is a control verb. Its German counterpart *ankommen*, however, is identified by the control tests mentioned above as a non-control verb. In this particular case, it is conceivable that the tests fail for *ankommen* for reasons not directly related to control. In general, however, we should bear in mind the possibility of two "translation equivalents" belonging to different predicate classes. We will come back to this in §4.1.

2. On the basis of this kind of evidence, the following considerations suggest themselves:
1. Control manifests itself not merely in a paradigmatic opposition, but primarily in the syntagmatic contrast between two participants which have different degrees of control (cf.

[32] German *verlieren* `lose' and *abhanden kommen* ‘get lost’ are analogous.

§3.6.1).

2. The continuum of control extends from maximal to minimal control. It is, however, complemented by a converse continuum of **controlledness**. This is the degree to which a participant is subject to the situation. This means that the situation happens to him; the participant is disposed or even acted upon in the situation.
3. The logical relationship between control and controlledness is as follows: For each participant, maximal control entails minimal controlledness, and maximal controlledness entails minimal control. Minimal control and minimal controlledness, on the other hand, entail nothing.[33]
4. Both control and controlledness are relations between a participant and a situation, not relations between one participant and another. This, again, has two implications:
5. Control and controlledness are chosen for each participant, to some extent independently of the presence and control specifications of other participants.
6. Specifically, if a situation has only one participant, this may be controller or controlled. That is, there may be control without anybody being controlled, and there may be controlledness without anybody controlling.[34]

To exemplify: In the *a*-sentences of E53 and E54, the participant not only does not control the situation, but is actually controlled by it, since he cannot choose not to undergo the situation. In E55, the term paper is maximally controlled. The students are more controlled on the coercitive than on the permissive reading. In E56, the same goes for the child, whereas the platform is less controlled than the term paper in E55, since it is not subject to the situation. In E57, the participant is neither controller nor controlled. In E59, the inactive participant has no control over the situation and, instead, is slightly more controlled by it than the active one. It is at this level that the terms **actor** and **undergoer** (introduced in Foley & Van Valin 1984) are posited; they presuppose a slope of control and refer to a predominantly controlling and a predominantly controlled participant, respectively.

This much should suffice to motivate the claim that the degree of control that a participant exercises over a situation and the degree to which it is controlled by it are parameters structuring the domain of participation. One-place predicates may, thus, be arranged on a continuum according to whether their participant is more controlling (grammatically: active) or controlled (inactive). Although stative situations are generally low in control, the two subtypes of properties and states would emerge as differing in control. This becomes evident from an application of the imperative test to such property predicates as *rich* vs. such state predicates as *glad*.

Similarly, two-place predicates will be classified as to the degree of control that either participant has and is exposed to. For instance, the control drop in ‘kill’ is sharper than in ‘see’. Moreover, there are predicates which admit of control but do not require it, usually exemplified in the literature with ‘fall’.

It is a particularly vexing question whether inanimate participants can exert control. Obviously, most of the tests mentioned above fail with inanimate participants, given that, barring personification, they cannot be addressees of imperatives, cannot hesitate or have any other propositional attitudes.

---

[33]The one exception to this is reflexivity, where control and controlledness may be united in one participant.

[34]This, in effect, resumes Chafe's (1970) conception (cf. F1), which treats agents and patients as participants which may be independently involved in single-participant situations or be combined in a two-participant situation.

E62 a. Paul admires French.

b. French fascinates Paul.

However, faced with an example such as E62, one wonders whether *French*, while exerting no control in *a*, does not exert at least some in *b*; witness the passivizability of the sentence. Again, Paul is a bit more controlled in *b* than in *a*; he can better choose not to admire French than not to be fascinated by it.

It appears that control may also be exerted by propositions.

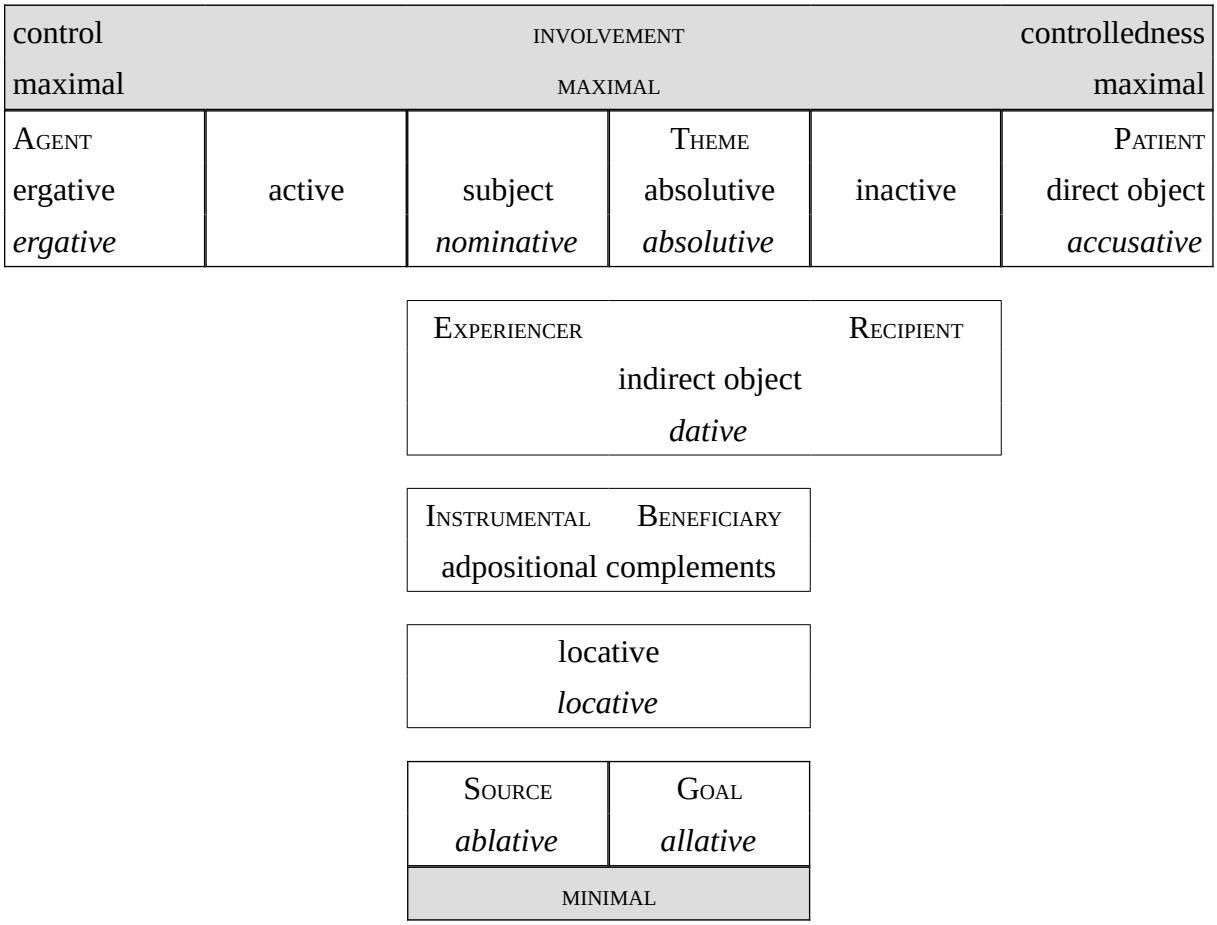
E63 The fact that Peter constantly misunderstood him drove Paul mad.

Obviously, Paul is strongly affected and, thus, severely controlled in E63. However, here just as in E62b, one must be careful not to impute control to one participant just because another participant is controlled. As we saw above, there may be controlledness without a controller. This question demands more empirical investigation.

3. Given the continuum of control, it seems plausible to assume that there are levels inside it, much as we have found subdivisions inside the continua discussed before. For instance, in the two readings of E55, the causee is at two different levels of control. Moreover, the causer is probably at a higher level of control on the coercitive reading than on the permissive reading. After all, the permitter shares control with the permissee. He may agree only reluctantly to let the situation happen, so that the permissee actually has most of the control. However, at this stage of investigation, it is impossible to define the levels of control. More empirical research is needed which connects the manifestations of control in each of the areas of causation, active/ inactive predicate systems etc. with each other.

Control and controlledness are specific kinds of involvement. Therefore their structural manifestations are a subset of those sketched in F11. Consideration nº 3 in subsection 2 above would lead one to expect that the continuum of control will have to be at least two-dimensional. F12 is an attempt to show in two dimensions how grammatical and semantic relations are determined by the control field radiating from the verb (cf. also Foley & Van Valin 1984:59).

F12. *Control and controlledness*



The vertical axis of F12 can be equated with F11, with the modification that involvement in F12 decreases in all directions from the center of the horizontal axis. Each participant will occupy a point in F12. Its control properties will be determined as a function of its distances from the control and the controlledness poles. If a participant's distance from the control pole is shorter than from the controlledness pole, it is an actor, and the situation is, for this participant, an **action**. Otherwise, it is an undergoer, and the situation is an affliction for it. The overall control potential of a situation is a function of the control properties of the participants. The allowable configurations are subject to – yet pending – empirical investigation. It is, however, assumed that lexicalization of situations with a maximal control drop will yield prototypical transitive verbs and that these are prototypical verbs in general (as against other word classes; cf. the remarks on F9 above and Broschart this vol., ch.3).

The control properties thus contribute to determining a participant relation, which in turn may be interpreted as a case relation. If involvement is maximal, this will be manifested as a verb-governed grammatical relation. It will be expressed by a grammatical case or not by a case at all. These relations are assembled in the upper part of F12, with the most grammatical ones in the center. As involvement decreases, case relations will become less verb-governed and will actually be increasingly expressed by cases. In F12, participant relations are shown in upper case, grammatical relations, in plain typeface, and cases are italicized.

While Fillmorian case roles are relatively easy to define for the more distant participants, a definition of the more central ones has notoriously proved difficult. "Objective", "theme" etc. reflect an attempt to subdivide the continuum of control on a language-independent basis and to define selected areas on it by positive features. Against that, F12 accounts for the fact

that at this level of grammatical abstractness, linguistic categories and relations are purely oppositive.

Of the grammatical relations assembled in F12, at least subject and absolutive are not defined exclusively as case (or valency) relations, but partly also as grammaticalized topics (cf. Wandruszka 1984). This fact is probably responsible for a difference between subject/direct object and ergative/absolutive, on the one hand, and active/inactive, on the other. While the former relations are often expressed by cases, which moreover are commonly in a markedness opposition, the latter rarely are. The reason is that in systems based on the former relations, either the actor or the undergoer may be combined with the grammaticalized topic, so that a primary argument results. In systems based on the active/inactive relation, there is no primary argument (cf. Bossong 1980 and Serzisko this vol., ch.9, §3.4). This is brought out in F12 by the symmetric position of active vs. inactive as opposed to the asymmetric position of subject vs. direct object and ergative vs. absolutive.

One may speculate whether the speech situation itself could be a model of a typical situation which combines participants of differential control. Thus, the speaker could be the model of a participant who has maximal control. What he says would be an instance of something maximally controlled. The hearer would represent a participant who partakes of both control and controlledness, but to a lesser extent. Semantic roles could then be founded as indexes in a deictic space.[35] More generally and somewhat less speculatively, by virtue of its triangular shape, F12 naturally lends itself to the visualization of transaction situations, thus diverting the focus a bit from the canonical "transitive" situation which has so long obsessed linguists.[36]

3.6.3. Affectedness

Given that a participant is an undergoer, he/it may be affected by the situation to different degrees. Compare E64a and *b*.

E64 a. Paul attacked Peter.

b. Paul defended Peter.

Peter is controlled in both cases; but in *a* he is more affected than in *b*.

1. The primary distinction to be made on the affectedness scale is the traditional one between affected and **effected**.[37] E65 and E66 are familiar illustrations.

E65 a. Paul corrected the letter.

b. Paul wrote the letter.

E66 Paul painted the house.

E65a contains an affected object; it exists independently of the situation. E65b contains an effected object; its existence results from the situation. The **effected object** is therefore also called an **object of result**. E66 is ambiguous between an affective and an effective reading. It may be seen that the effected object is rather similar to the cognate object discussed in §3.2.

---

[35] This is an idea of M. Silverstein's (p.c., Nov 6, 1987).

[36] Another aspect of the "flow of control" from left to right in F12 is the flow of time associated with it (cf. Lyons 1977:496f and DeLancey 1981). Thus, a dynamic situation starts from the actor or a more strictly local source and ends at the undergoer or a more local goal.

[37] Hopper 1985 is a basic contribution to this matter.

They have it in common that their existence depends on the situation, and consequently they share a low degree of individuation.

Several kinds of actance variation are sensitive to this distinction. One kind is found at the syntactic level, in languages such as Mandarin or Ewe, which use coverbs or verb serialization. There may be a choice between the constructions 'S V O' and 'S take O V'. The latter alternative will then be restricted to the affected object (cf. Hopper 1985:74-76). E67 is an example.

E67 a. Tā xiě zì xiě zài hēibǎnshàng.
CHIN he write character write LOCATE blackboard
'He wrote (the) words on the blackboard.'

b. Tā bǎ hēibǎnshàng de zì cā le.
he ACC blackboard GEN character erase PERF
'He erased the words on the blackboard.' (Siewierska 1988:81f)

This is readily understandable as a consequence of the non-existence of the effected participant expressed by 'O' prior to the situation whose core is expressed by 'V'. Other syntactic differences relate to definiteness and are again explicable by the existence presupposition associated with affected, but absent from effected objects.

The affected/effected distinction is more virulent in the lexicon. In German, derivation of transitive verbs by prefixation is sensitive to it. Verbs prefixed with *be-*, *ver-*,[38] *zer-* all require an affected object, while verbs prefixed with *er-* admit of an effected object.

E68 a. Paul schrieb den Brief.
GER 'Paul wrote the letter.'

b. Paul beschrieb den Brief.
'Paul described the letter.'

E69 a. Die Kinder bildeten einen Kreis.
GER 'The children formed a circle.'

b. Der Lehrer verbildete die Kinder.
'The teacher spoiled the children.'

E70 a. Die Kollegen redeten Unsinn.
GER 'The colleagues talked nonsense.'

b. Die Kollegen zerredeten den Vorschlag.
'The colleagues talked the proposal to pieces.'

E71 a. Paul arbeitete an dem Vorschlag.
GER 'Paul worked on the proposal.'

b. Paul erarbeitete den Vorschlag.
'Paul worked the proposal out.'

In E68 – E70, the *a*-versions show a simple verb which allows of an effected object, while the derived verbs in the *b*-versions require an affected object. Conversely, the simple verb in E71 only allows of an affected adjunct, while the derived verb only takes an effected object.[39]

---

[38] with one exception: *verfertigen* 'manufacture'

[39] It should be noted that the formation of effective verbs is only one of the functions of *er*-derivation.

A very similar situation obtains in Indonesian. The applicative verb derivation in *-kan* again corresponds to German *be*-derivation. It, too, is restricted to affected objects.

E72 a. Dia men-campur sayur-sayuran.
IND he ACT-mix vegetable-salad
'He mixed the vegetable salad.'

b. Dia men-campur-kan sayur-sayuran.
he ACT-mix-APPL vegetable-salad
'He mixed in the vegetable salad.' (Hopper 1985:82)

E72a shows an effected, *b* an affected object.

While affected objects may be affected in different ways and to different degrees, effected objects cannot be said to be affected by the situation in any way or degree. They do, however, have it in common with totally affected objects, to be discussed below, that they are totally effected. I.e., there is no partially effected object. This commonality is important enough for them to be mostly expressed like totally affected objects. The German stative passive, for instance, generally possible only for transitive verbs in telic situations (cf. §3.4.2), is fine with effected and radically affected patients (e.g. of *malen* 'paint', *füllen* 'fill'), but less so with mildly affected patients (e.g. of *antreffen* 'meet').[40] Another consequence of the similarity of the effected object to the totally affected one is that verbs taking one are generally terminative.

The discussion has so far concentrated on objects being affected or effected. While the distinction applies only to controlled participants, it is by no means restricted to participants represented as direct objects. For instance, the subjects of the intransitive verbs *shiver* and *arise* represent an affected and an effected participant, respectively. See E54a for an affected participant represented as the subject of a transitive verb. Effected participants can probably not be represented by the subject of a transitive verb.

2. A participant is **affected** by a situation if the situation has an impact upon it; i.e., basically, if it is changed by it or at least contacted physically or mentally. A participant which is not attained by the situation or by the behavior of another participant may be controlled (and thus be an undergoer), but it is not affected (cf. Tsunoda 1981, §3).

There are important qualitative and quantitative differences in affectedness. As to quality, the most intense changes concern the physical constitution of the participant. Here there are gradual differences depending on whether an essential part of the participant is impinged upon or just its surface is concerned. If the participant has a mental life, he may undergo a change in his mental disposition, which is commonly conceived as affecting him less than a bodily affliction. Change in position (**motion and transport**) is qualitatively special, as there is no impingement on the participant.

As to quantity, there are differences in the extent of the change. These range from a total destruction or remake of the participant to a minor modification of a marginal part of it. Change in position affects the participant as a whole and therefore counts as total affectedness.

In previous work, mentioned in §1.2, it has been shown that the closer a two-argument predicate is to the end of this twofold affectedness continuum, the more likely it will be manifested as a transitive verb in diverse languages, and the more likely the affected participant will, *ceteris paribus*, be manifested as a direct object (instead of either a subject or another complement) or as an absolutive, respectively. Exceptions from this generalization, such as

[40] This is something that effected objects do not share with cognate objects; cf. E9 in §3.2.

the physical impact verbs of Abkhaz, which take the undergoer in an indirect object or circumstantial function, demand an explanation.[41]

Passing through the qualitatively different changes, we note the following cases: In Chechen, 'kill' and 'hit' both take an ergative agent, but 'kill' takes an absolutive, 'hit' a dative patient (Tsunoda 1985:389). The experiencer of feelings and mental states has an ambivalent status. On the one hand, he is human and therefore subject to the general tendency of putting human participants into subject position if other participants do not have higher control. On the other hand, he is affected to some degree, certainly more so than the participant which is the theme of the emotional, mental or perceptual process. Such predicates therefore do not easily fit in the valency frames designed for prototypical cases. In the categorization of affects, Latin solves the problem with its notorious class of impersonal *verba affectuum* such as *pudet/taedet/piget/paenitet me alicuius rei* 'I am ashamed/disgusted/bored by/I repent something', whose special valency frame provides for no subject at all. As for changes in mental state, several languages provide a non-subject syntactic function for the experiencer of such concepts as 'remember', 'forget'. German has *einfallen*, *entfallen* (and even *schmeicheln* 'flatter') with indirect-object experiencers. Chickasaw marks the experiencer of such verbs by the non-agent cross-reference prefix set; cf. Payne 1982, §2.4. See Dezső 1982:64f for more examples from Russian. In general, however, there is probably least regularity on this purely qualitative parameter.

Conversely, many languages exhibit productive means for indicating a quantitative difference in affectedness. The German *be*-applicative shows up here again.[42]

E73 a. Paul antwortet auf die Frage.
GER 'Paul replies to the question.'

b. Paul beantwortet die Frage.
'Paul answers the question.'

E74 a. Paul schmiert Fett an die Achse.
GER 'Paul smears grease on the axle.'

b. Paul beschmiert die Achse mit Fett.
'Paul smears the axle with grease.'

In E73 and E74, the *a*-versions show **partial**, the *b*-versions **total affectedness** of a participant. The partially affected participant is expressed as an adjunct, while the totally affected participant is expressed as a direct object. In E74, where there are more than two participants, promotion of one participant is paired with demotion of another, as in E46 in §3.6.1.

Alternative constructions paralleling E74 are common in many languages, including Latin, Russian, Dutch and English. 75 is from Hungarian.

E75 a. A munkás (rá-)keni az olaj-at a tengely-re
HUN the worker onto-smear the oil-ACC the axle-SUBL
'The worker smeared the oil on the axle.'

---

[41] Cf. Drossard this vol., ch.5; see also Bossong 1982 on 'beat' and 'bite' in Ubykh.

[42] The features of the *be*-applicative, namely involvement (vs. distantiation, cf. E43 – E46), affectedness (vs. effectedness, cf. E68), and total (vs. partial) affectedness (cf. E73, E74), of course fit into a coherent picture of the function of this derivation, as well as of other applicative derivations: the prototypical case is maximal affectedness, the smallest common denominator is more involvement of the undergoer.

b. A munkás (meg-)keni a tegely-t olaj-jal
the worker TERM-smear the axle-ACC oil-INSTR
'The worker smeared the axle with oil.' (Dezső 1982:70)

The example confirms the observation that partial vs. total affectedness correlates with non-terminative vs. terminative aspectual character (cf. 34, 35) (and/or with imperfective vs. perfective aspect).[43]

Another way of making the distinction is the **partitive**, as in E76.

E76 a. Paul a bu de l'eau.
FRE 'Paul drank some water.'

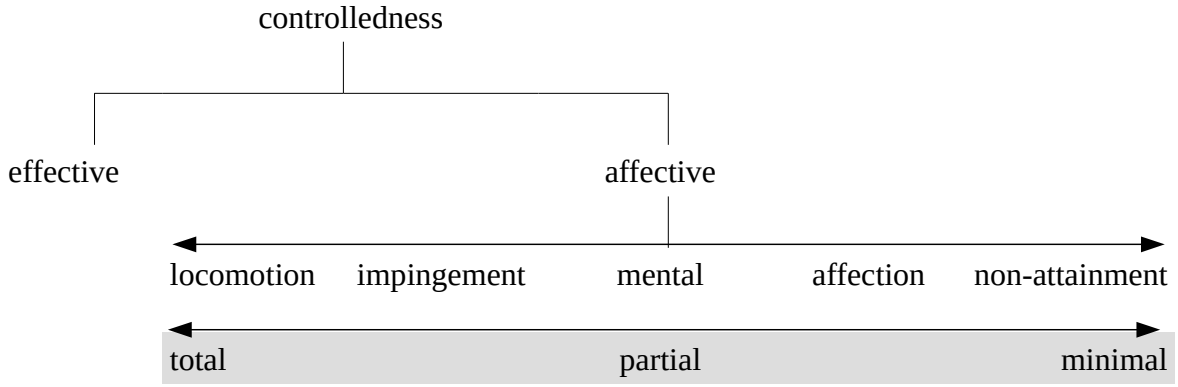
b. Paul a bu l'eau.
'Paul drank the water.'

The relationships between non-terminative/imperfective, partitive and indefinite, on the one hand, and between terminative/perfective, accusative and definite, on the other hand, remain to be investigated (cf. Dezső 1982, ch.1.2).

Finally, it should be noted that transport verbs generally take the moved entity in the direct object/absolutive relation. The unclassifiable quality of the affectedness here is outweighed by maximal controlledness and total affectedness. This is doubtless related to the fact that many transport verbs are analyzable as causative versions of motion verbs.

3. We may now set up the continuum of affectedness in the form of F13 (which, because of the independence of the qualitative and quantitative parameters, should actually be multidimensional).

F13. *Degree of affectedness*



As F13 makes explicit, affectedness, including its opposition to effectedness, presupposes controlledness. Insofar, F13 may be understood as a specification of the left-hand side of F11. Furthermore, it is clear how predicate classes can be defined on the basis of F13.

4. Classification of predicates

4.0. Methodological preliminaries

The logical relations which the parameters structuring situations bear to each other are manifold and complicated. Some cross-classify with each other, others extend only inside a category provided by another parameter. Several of these relations have been hinted at during

[43] The conversion observed in E74 and E75 also correlates with factors that have nothing to do with verbal semantics, namely greater topicality of the promoted participant; cf. Bolkestein 1985.

the discussion. In the following sections, we will see how their interaction yields predicate classes.[44]

Several of the parameters examined above cross-classify with each other. This is true, e.g., of exteriorization (quantitative valency), participant properties and dynamicity. For the sake of exposition, this cross-classification has to be projected onto a hierarchical classification. This implies that a choice must be made as to which parameters are to be treated as primary and which as secondary. Given that predicates represent participata, it seems reasonable to base the classification on those parameters which directly relate to participata, and to use the parameters involving the participants for lower-level subclassification. This procedure bears a certain similarity to what is done in language itself (cf. §2.2). Moreover, we have seen in §3.5 that participant properties do not vary systematically among predicates or predicate classes. This also argues for assigning them a low position in the hierarchy. To some extent, however, the way the cross-classification is hierarchized is actually arbitrary. Any choice will allow for a simple statement of certain derivational relationships in terms of high-level classes, while other derivational relationships have to be repeated for several logically parallel low-level classes. This should not be regarded as a weakness of the classification, but as a necessary consequence of the needs of sequential exposition.

In converting a classification of situations into a classification of predicates, we pass from the cognitive level of participata and participants to the semiotic level of predicates and arguments. Predicates will be designated by English words put in simple quotation marks, as, e.g., ‘go’. There are enormous methodological problems behind this seemingly innocent and certainly widespread procedure. Such a label is not meant to be identical to an English lexical item, e.g. *go*, or to the meaning of such an item, "go" (or, sometimes, GO). There is no need here to argue against using English as a *tertium comparationis* for all languages.

However, if labels such as ‘go’ do not represent English words or their meanings, what else do they represent? Many will be prone to answer: cognitive entities, language-independent concepts. However, our methodological situation is the following: We presuppose such concepts, look for their representation in languages and generalize over the ways in which they are represented. Now suppose the various parameters structuring situations are fixed for each such language-independent concept. Then there is little chance that many languages will have a word whose significatum coincides exactly with a given language-independent concept. In the foregoing, we have repeatedly encountered translation equivalents which belong to different predicate classes. Recall English *forget* vs. German *entfallen* (from E61), and add to this English *go/walk/leave* vs. German *gehen*. On this supposition, then, the whole enterprise is doomed to failure from start. Suppose, on the contrary, that such cognitive entities are not defined by fixing all the parameters, that variation along them is allowed in their instantiation in diverse languages. Then all cross-linguistic generalizations about predicate classes are subject to modification by such statements as "‘go’ works differently in English than in German with respect to generalization G because the English instantiation differs along parameter P from the German instantiation". Instead of deducing structural linguistic behavior from the nature of a given concept, we here infer the nature of the English and German instantiations of a concept from their differential structural behavior with respect to G. If we do both things at

[44] The classification of predicates offered in Daneš 1987, §II is very similar both in its purpose and in its lay-out to the one that follows below. Daneš's examples and comments have been made use of. His classification, however, does not seem to render the one attempted here superfluous, since key terms such as ‘state’, ‘process’, ‘change’ remain undefined, so that it is hard to argue why, e.g., *she is sitting* should designate a state, but *he admires her voice*, a process (p.13).

the same time, all empirical generalizations about the behavior of the cognitive entities in languages become circular.

The only way out of this dilemma seems to be to conceive of such cognitive entities as prototypes, which are subject to variation within certain limits and under certain conditions. It is impossible to make this explicit in the present context. Here, the simple interpretation of 'go' as 'the closest translation equivalent of Engl. *go* in any language' will have to be relied on. As a consequence, the translation equivalents in any particular language of the example sets given to illustrate the subclasses below are expected to be heterogeneous, i.e. to belong to different predicate classes.

By passing from participatum and participants to predicate and arguments, we automatically fix some of the parameters. The participatum has to be inflated at least to some degree; otherwise there is no predicate. Arguments to be considered have to be involved at least moderately, because otherwise they do not determine predicate classes. Given that, on the side of stronger involvement in F9, differentiation is afforded by the parameters of control and affectedness, we may as well disregard involvement as such in the following discussion.

There are other simplifications resulting from the projection of situations onto predicates. In §3.4 we have seen that values on the dynamicity parameter are a matter of the situation as a whole, expressed by a clause as a whole. A given verb such as *wander* can occur in telic and atelic situations (cf. E32). Here we will have to assume (as has been done in most of the relevant literature) that the aspectual character of a verb qua lexical entry may be determined by observing it in a minimal clause frame. Thus, *wander* would be atelic. Again, whereas controlledness is always an intrinsic aspect of a lexeme's meaning, control is not necessarily. A flying person normally exerts control; a flying kite not. Control therefore will have to mean 'potential control'.

The parameter of **inflation**, while leading to a variety of situation classes, only yields two classes of predicates, namely weakly inflated ones, i.e. logical predicates, generally represented as grammatical verbs, and normally inflated ones, generally represented as lexical verbs. Maximally diffuse situations do not contain a predicate. Hyperinflated situations generally involve two or more predicates, each of which will belong to one of the classes.

Just as any other predicate, **logical predicates** subclassify according to the other parameters and do not seem to differ essentially from normally inflated ones. On the contrary, it appears possible that 'be' and 'exist' show involvement, control and affectedness properties typical for stative predicates, 'become' and 'get' properties typical of dynamic inactive, and 'render' and 'do/make' properties typical of dynamic active predicates. They do differ from most lexical predicates by taking not only entities, but, even more commonly, predicates as their complement. In this case, they will be manifested as traces left on these by operations of stativization of entity and property concepts, of inchoativization, factitivization and causativization, respectively. This consideration leads to the special theoretical role that logical predicates play in the definition of verb classes in Godel 1950 and Foley & Van Valin 1984. This said, they can safely be integrated in the global classification.

In the following classification, particular subclasses will be given a name whenever a traditional one is available or a term suggests itself naturally. Subclasses will be illustrated by a couple of examples whenever possible. The purpose of this is to provide a list of typical representatives of different predicate classes which can be tried out in empirical investigations of particular languages.

4.1. Properties

4.1.1. One participant

There is no clear example of a logical property predicate. ‘Such’ comes close, but is more properly conceived as a relation.

4.1.1.1. Proposition: Modal predicates: ‘true’, ‘necessary’, ‘should’. Predicates attributed to processes and, derivatively, to entities participating in them: ‘easy/difficult’, ‘fast/slow’.

4.1.1.2. Location:: Possibly ‘wide/narrow’ would be relevant examples in some language.

4.1.1.3. Entity: Quantitative: ‘many/few’. Temporal: ‘old/new’. Visual: ‘big/ small’, ‘long/ short’; ‘white, red ...’. Acoustic: ‘loud/low’. Tactile: ‘hard/soft’. Taste: ‘sweet/sour’. Evaluative: ‘good/bad’, ‘pretty/ugly’. Affiliation: ‘foreign’.

4.1.1.4. Animate: Biological: ‘old/young’, ‘strong/weak’, ‘fat/ slim’; ‘blind’. Evaluative: ‘kind/ mean’, ‘handsome/nasty’. Behavioral: ‘wild/tame’.

4.1.1.5. Human: Biological: ‘elderly/youthful’; ‘mute’. Social: ‘rich/poor’.

4.1.2. Two participants

Most examples are relations between participants whose categories are irrelevant. Logical: ‘such (as)’, ‘same (as)’, ‘other (than)’. Others: ‘equal’, ‘similar, resemble’, ‘different, differ’, ‘half’. Interpropositional relations: ‘compatible’, ‘suffice’, ‘presuppose’. It is significant that English has verbs only for bivalent properties.

4.2. States

4.2.1. One participant

4.2.1.1. Proposition: ‘be the case’, ‘possible’, ‘usual’.

4.2.1.2. Location: In accordance with §3.2, ambient situations will be treated as having a location as an internal participant. (This move may require astronomical and meteorological phenomena to be treated as a special kind of location.) Ambient state predicates: ‘cold’, ‘hazy’, ‘sultry’. Other state predicates which only apply to locations are rare. Yucatec *háanil* ‘clean, free of herbs’ or German *aufgeräumt* ‘orderly’ would be examples.

4.2.1.3. Entity: Logical: ‘where’, ‘there’; the presentative ‘voilá, here is’. Visual: ‘light/ dark’. Tactile: ‘hot/cold’, ‘wet/ dry’. Biological: ‘fresh’, ‘ripe’, ‘clean/dirty’. Quantitative: ‘alone’, ‘full’. Such states may also be expressed by verbs. Cf. Lat. *livere* ‘be blue’, as in E20.

4.2.1.4. Animate: State predicates that only apply to animates may be called **psychosomatic state** predicates. Examples include ‘alive/dead’, ‘healthy/sick’, ‘awake/ asleep’, ‘hungry’, ‘thirsty’. These may be expressed by verbs: Engl. *live, sleep*, Lat. *valere* ‘be strong, healthy’, *aegrotare* ‘be sick’. The animate being found in a psychosomatic state is often controlled and even affected and consequently expressed in an oblique relation. Cf. Germ. *mich hungert/ dürstet/friert/ schaudert* ‘I feel hungry/thirsty/cold/I shudder’.

4.2.1.5. Human: Psychic states: ‘happy’, ‘glad/sad’, ‘bored’, ‘ashamed’. Some of these may be bivalent.

4.2.2. Two participants

4.2.2.0. Stative situations do not allow high degrees of control. This is, in fact, what one would expect if nothing changes. Accordingly, stative predicates typically do not appear in transitive frames. Seemingly transitive stative verbs such as 'have' do not easily passivize. Resultative passives, such as the one in E27b, do not admit of an agent phrase.

In state predicates expressing relationships, the valency which combines a subject/absolutive/inactive with an indirect object is particularly common. Verbs such as 'need', 'have', 'know', 'love', 'want' take their reference point in the dative in many languages, thus being conceived rather as their converses 'be wanting', 'belong', 'be known', 'please', 'be desirable'. Cf., e.g., Pilot-Raichoor 1986 for Badaga.

The traditional **verba affectuum** (which, incidentally, have always included some adjectives such as Lat. *laetus* 'glad') have to be subdivided according to dynamicity. Accordingly, we will speak of **verba affectuum stativa** and **verba affectuum dynamica**. Here we will only deal with the stative ones.

4.2.2.1. Proposition: There are no examples of interpropositional relations that are states. Predicates that delimit a proposition with reference to a location (approximately: 'hold [for]') or that constitute a relationships of a proposition towards an entity as a reference-point (perhaps some variety of 'need') are rare.

As for relations between animate beings and propositions, part of the *verba affectuum stativa* require a proposition as an argument. These designate mental states, propositional attitudes and dispositions: 'be capable', French *savoir* 'know', 'understand', 'believe', 'want', 'eager'. As the parallelism between this subsection and §4.2.2.3 brings out, predicates such as 'know' can be conceived of as a kind of possession pertaining to propositions.

4.2.2.2. Location: There are few purely spatial relationships, i.e. relations between locations, such as 'situated', 'border'. Much more important are relations of entities to locations. First, there are the logical bivalent state predicates, 'be', 'exist'. The location argument of these predicates often remains internal ('there is X'). Other such predicates include 'stay', 'contain', 'near/far'.

Stative predicates that establish a relation between an animate participant and a location are **positions**:[45] 'live', 'dwell', 'stand', 'sit', 'lie'. The location participant often remains internal.

The remarks in §4.2.2.0 on the low degree of control in states also apply to positions. The example verbs fail on most of the control tests and therefore must be regarded as at most weak control predicates (contrary to F3). This fact and their representation as adjectives in some languages (e.g. French *debout, assis, couché*) would seem to speak in favor of their classification as state predicates. Cf. also Pustet 1989, §3.9.3 on position adjectives in Tzutujil. On the other hand, in many other languages with a vigorous class of adjectives, position predicates are represented as verbs, and in English they even allow the progressive. This argues for regarding them as durative predicates. Their subsumption under the present category should therefore be taken to be forced by the exigencies of a hierarchical classification. That positions are really on the borderline between states and processes is also apparent from their treatment in Yucatec Maya. Such roots as *wa'l-* 'stand', *kul-* 'sit', *chil-* 'lie' never (except in the imperative) occur without either a verbal or an adjectival derivational suffix; e.g. *ku-tal* (sit-VERBALIZER) 'sit', *kul-a'n* (sit-RESLTV) = French *assis*, *kul-ukbal* (sit-STATIVE) 'sitting'.

---

[45] Chafe 1970, ch. 12 calls them locative states.

4.2.2.3. Entity: For relations between entities whose animacy is irrelevant, we again have the logical predicates 'be' and 'exist'. This is the copula function of 'be' (cf. E14), which also includes the case in which the second argument is not an entity, but a predicate. Several languages have copulas that refer to different phases of a state; cf. Kaye 1989:684 for Arabic.

If the second participant of 'exist' is an entity (instead of a location, as in §4.2.2.2), it becomes a kind of 'have'-relation, as in E15. This is the basis of **possessive relationships**, e.g. 'possess', 'belong', 'suffice', 'need', 'lack'. Other relationships of an entity towards a reference-point include 'suit', 'exceed', 'remaining'.

4.2.2.4. Animate: Relationships between an animate being and another entity include affects and attitudes, e.g. French *connaître* 'know', 'like', 'please', 'wish', 'love', 'hate', 'respect', 'angry at', 'afraid of'. Verbs expressing such concepts are **verba affectuum stativa**.

4.2.2.5. Wherever entities are involved, these may be conceived to be more or less controlled by the state. Accordingly, we have converse doublets such as *please* (animate controlled) vs. *like* (other entity controlled), *possess* (possessum controlled) vs. *belong* (possessum less controlled), *contain* (entity controlled) vs. *be in* (entity less controlled) etc. In some cases, such differences in control may be minute; they are, in any case, only one of the circumstances regulating subject choice.

4.2.3. Three participants

The same subclassification applied to bivalent state predicates is, in principle, applicable to any n-place predicates. However, since multi-participant situations tend to be dynamic, there will be few such predicates as 'owe'.

4.3. Durative processes

4.3.1. One participant

4.3.1.1. Proposition: Durative predicates applicable to processes include 'last', 'continue'.

4.3.1.2. Location: Corresponding to ambient state predicates, we have ambient process predicates such as 'rain', 'drizzle'.

4.3.1.3. Entity: Primitive durative predicates applying to entities include 'rotate' (potentially controlled), 'tremble', 'shine', 'flourish', 'rattle'. Corresponding to property predicates, we have **change of property** predicates such as 'grow', 'shrink', 'blacken'. These are **inchoative** verbs. Corresponding to state predicates, we have **change of state** predicates such as 'burn', 'boil'. However, most of these appear to be telic. To the extent that one cannot control one's own properties or states, one can also not control their changes. Consequently, all change of property and most change of state predicates are non-action predicates.

4.3.1.4. Animate: If relevant situations require control, they are designated by **durative action** predicates: 'blow', 'sing', 'speak', 'laugh', 'dance', 'play', 'work', 'graze', 'shit', 'urinate'. Motion predicates will be considered in §4.3.2.2.

Durative predicates which require an animate argument but no control are rare; 'transpire' would be an example. 'Weep' is a borderline case; cf. *stop weeping!*, but ?*start weeping!* Others that come to mind, such as 'live', 'sleep', have already been mentioned in §4.2.1.4.

The process verbs of this category figure prominently among those which take a cognate effected object (cf. §3.2).

4.3.2. Two participants

4.3.2.1. Proposition: There appear to be no durative processes involving a proposition and another participant which is not an animate being. Among those involving an animate being, we distinguish between controlled and uncontrolled processes. To express the former, we find such **cognitive action** predicates as 'think', 'consider', 'imagine', 'expect'. Together with others yet to be mentioned, these would count among traditional **verba sentiendi dynamica activa**.

For those processes which do not require control, we have **inactive cognitive process** predicates such as 'dream' and affect predicates such as 'annoy', which show up in the group of **verba affectuum dynamica**.

Control is variable in mental activity. The non-control character of 'dream' is manifested in (obsolescent) German *träumen* with the theme in subject and the experiencer in indirect object function. Similar constructions, with the experiencer even in direct object function, exist for Middle English *me thinks* = obsolete German *mich dünkt/deucht*, although 'think' has been classed among the active cognitive process predicates.

4.3.2.2. Location: Processes which combine an entity with a location come under the general heading of **motion**. Predicates of motion are the dynamic counterpart to the stative predicates treated in §4.2.2.2 and could therefore be conceived of as change of location/position predicates. Although motion is typical of animate beings, there are some relevant predicates whose first argument is just a (typically inanimate) entity, such as 'flow', 'float', 'soar', 'slide'.

For animate participants, we would have to subdivide motion predicates into controlled and uncontrolled ones. However, motion of animates is conceived as typically controlled. This implies that **uncontrolled motion** predicates are just those illustrated before. **Controlled motion** predicates include 'move', 'run', 'walk', 'creep', 'fly', 'swim'. These differ from monovalent action predicates such as 'work' (cf. §4.3.1.4) in that the situation presupposes a location which, although possibly remaining internal, is more or less remotely involved. However, there are boundary cases such as 'graze' and 'dance', which were classified as monovalent action predicates in §4.3.1.4, but also involve motion.

4.3.2.3. Entity: Durative processes involving two entities whose animacy does not matter include 'rub' and 'wetten'. Many property and state predicates can be transformed into bivalent durative predicates by the **factitive** derivation, of which *wetten* is a product and of which we have seen an example in E35b. However, this typically involves an animate agent and, moreover, may yield terminative, instead of durative, predicates. There do not appear to be durative counterparts to the relational states of §4.2.2.3.

4.3.2.4. Animate: Durative predicates taking an animate being and another entity as arguments will be ordered according to control of the actor and affectedness of the undergoer. Both are at their highest degrees in predicates designating **physical manipulation** of objects,[46] such as 'box', 'shake', 'squeeze', 'massage', 'press', 'hold', 'keep'. The undergoer is more mildly affected in 'shave', 'comb', 'treat'.

Control and affectedness are yet lower in **social actions** (on human undergoers), which do not essentially involve physical contact. Here we find predicates such as 'help' (German *helfen* cum ind. obj.), 'care for', 'serve' (German *dienen* cum ind. obj.), 'obey' (German *gehorchen* cum ind. obj.), 'marry' (Lat. *nubere* cum ind. obj.).

---

[46] In principle, physical impingement should be first on this scale. However, given the condition of durativity, durative impingement either means iterative-habitual impingement or comes down to manipulation.

Similar are predicates which signify a **mental operation** performed on the undergoer, whereby it is barely contacted. Examples are 'read', 'investigate'. If the undergoer is a person, too, he can undergo a **mental impact** by the action. This normally presupposes that the actor produces a linguistic object which, however, need not be a participant in such situations. The interlocutor partakes both in control and in controlledness (see §3.6.2). The result are **bivalent predicates of communication** such as 'call', 'praise', 'flatter' (German *schmeicheln* cum ind. obj.), 'scold', 'refuse' (possibly punctual).

Affectedness diminishes further in actions which do not attain their undergoer. Examples include 'wait for', 'search, look for', 'follow' (German *folgen* cum ind. obj.), 'accompany'.

In **perception** predicates, we distinguish between **attentive perception**, as in 'look', 'listen', 'sniff', and **inactive perception**, as in 'see', 'hear', 'smell', 'taste', 'feel'. The latter only have less control than their counterparts, but do not lack it altogether, or else verbs manifesting them would not be classed together with cognitive action predicates (cf. §4.3.2.1) as **verba sentiendi (dynamica)**. *Verba sentiendi activa* are more easily found in transitive constructions than *verba sentiendi inactiva*, although in the particular case of *see, hear* vs. *look, listen*, total vs. partial affectedness of the perceived entity counteracts this tendency.[47]

Finally, we come to predicates whose central animate argument is more affected than controlling. These include some predicates of potentially physical impact such as 'suffer', 'hurt', but also predicates of mood affections, manifested as **verba affectuum dynamica** such as 'fear', 'bore', 'annoy'.

The further one moves down on the scale of decreasing control and affectedness, the more commonly the undergoer is manifested as an indirect or adpositional object. Relevant German verbs have been inserted in passing.

4.3.3. Three participants

4.3.3.0. Apart from the exception mentioned in §4.2.3, trivalent predicates are dynamic. Their first participant is an animate controller. Most of them can be generated by combining certain bivalent predicate configurations. The most common and productive way of doing this is the addition of a higher actor by a **causative derivation**. Somewhat less common is the development of an undergoer by an **extraversion operation**. Although many of the examples in this and the parallel sections to follow may be analyzed in either of these ways, two things should be kept in mind. First, this remains a mere semantic relationship if the items in question are not morphologically related. Second, such derivational processes presuppose the existence of underived trivalent predicates which may serve as a pattern for them (cf. Dik 1985). Of the conceivable subtypes of trivalent durative predicates, three may be illustrated here.

4.3.3.1. The first subtype has a proposition as the undergoer and another animate being in a more distantly involved position. This includes such **trivalent predicates of communication** as 'tell', 'explain', 'teach'. Some of these may be analyzed as having a higher agent added to the bivalent frame treated in §4.2.2.1. 'Explain' and 'teach', for instance, bear an unmistakable causative relationship to 'understand' and 'know'. Another semantic relationship exists with the bivalent verbs of communication illustrated in §4.3.2.4. If the linguistic object produced in those actions is elevated to the status of a participant by an operation of extraversion, the result may be a member of the present subtype. Thus, for instance, a predicate such as 'lie'

[47] Moreover, *verba sentiendi activa* and *inactiva* also differ in dynamicity, the inactive ones being telic, the active ones atelic. Cf. Viberg 1984 and García-Hernández 1988.

– minus some features which are peculiar to this particular verb – plus a propositional participant in the undergoer role would yield ‘tell’.

4.3.3.2. The second subtype differs from the first only by having an entity instead of a proposition in the undergoer role, as in ‘show’. There do not seem to be many atelic predicates with this participant constellation. ‘Show’ itself is a causative to ‘see’ in many languages.

4.3.3.3. The third subtype is constituted by **transport** predicates (cf. §3.6.3). They combine highest control of the actor with maximal affectedness of the undergoer, while the third participant is a location which is more remotely involved and often remains implicit. This class comprises such predicates as ‘transport’, ‘carry’, ‘push’, ‘pull’, ‘drag’, ‘roll’, ‘chase’. In comparison with the bivalent motion predicates of §4.3.2.2, these have an added higher agent. This semantic relationship is often explicit in a causative derivational relationship.

4.4. Terminative processes

4.4.1. One participant

4.4.1.1. Proposition: Terminative predicates applicable to processes include such **phase predicates** as ‘end’, ‘cease’.

4.4.1.2. Location: There are no relevant examples.

4.4.1.3. Entity: Primitive terminative predicates applying to entities include ‘wither’ and ‘fade’. Many so-called inchoative verbs belong here, e.g. ‘ripen’. ‘Burn’, ‘boil’, which have been adduced in §4.3.1.3, and many others are ambivalent between durative and terminative meanings and could be repeated here.

4.4.1.4. Animate: If relevant situations require control, they are designated by **terminative action** predicates. However, there are no examples, probably because an action requires a goal in order to terminate. At most, ‘shit’ and ‘urinate’, from §4.3.1.4, could belong here. Motion predicates will be considered in §4.4.2.2.

Terminative predicates which require an animate argument but no control include ‘convalesce’, ‘tire (get tired)’, ‘drown’, ‘die’ (possibly punctual).

4.4.2. Two participants

4.4.2.1. Proposition: There appear to be no terminative processes involving a proposition and another participant which is not an animate being. Two-place predicates such as ‘stop, cease’ should probably be considered as derived from the corresponding monovalent predicates mentioned in §4.4.1. Among those involving an animate being, we distinguish, according to control, cognitive action predicates such as ‘learn’ and affect predicates such as ‘tire’.

4.4.2.2. Location: The terminative situations of this group combine an animate participant with a location which functions as the reference point of the action. We thus get motion predicates which differ only in terminativity from those treated in §4.3.2.2. Examples include ‘reach’, ‘come’, ‘approach’, ‘gather (intr.)’. Within this group, affectedness of the location may vary. English, for instance, allows transitive and adpositional constructions for verbs such as *sweep, climb*.

4.4.2.3. Entity: There is a logical terminative predicate relating two entities, namely ‘become’. This has been analyzed as a monovalent predicate taking a proposition as its argument already in generative semantics. The advantage of such an analysis is that the essential

possibility of having a predicate instead of another entity in second argument position is provided for. Its disadvantage is that no language is known to instantiate 'become' as a monovalent word.

An example of a terminative process involving two entities whose animacy does not matter would be 'assimilate', a predicate of **change of relational property** bearing an inchoative relationship to the relational property 'resemble'. 'Change' is probably related. Much more important are factitive verbs based on state predicates such as 'dry'. However, most such predicates require an animate actor.

4.4.2.4. Animate: Terminative predicates relating an animate being to another entity will be ordered according to control and affectedness. First come predicates with an effected undergoer such as 'make', 'create', 'manufacture', 'dig', 'write', 'compose'. For some predicates, the undergoer may be either effected or affected, e.g. for 'paint', 'sew'.

Next are predicates of **physical impingement** and **physical manipulation**, such as 'kill' (possibly punctual), 'destroy', 'burn', 'cut', 'saw', 'nail, hammer', 'trim', 'chop', 'carve', 'peel', 'paint, 'tint', 'cook', 'fry', 'evaporate', 'eat', 'drink', 'use up', 'spill', 'pour', 'strew', 'wrap', 'tighten', 'wash', 'brush', 'plant', 'sow', 'gather', 'harvest', 'surround', 'overcome', 'load', 'fill', 'undo'. Affectedness is a bit lower in social actions (on a human undergoer), such as 'cure'.

Corresponding to the durative predicates signifying a **mental operation** of §4.3.2.4, we have terminative ones such as 'measure', 'count'. There are no examples corresponding to the other durative subgroups of §4.3.2.4, except that 'spy' could be classed as a terminative perception verb.

Many of the examples in this section are causatives or factitives in some language.

4.4.3. Three participants

Terminative trivalent predicates may combine a proposition and another animate being with the protagonist, thus joining the class of trivalent communication predicates. 'Persuade' is an example. There may be an entity instead of the proposition, as in 'feed'. Finally, there are terminative transport predicates such as 'bring (close)', 'fetch'. All of the examples are represented as causative verbs in diverse languages.

4.5. Ingressive process

4.5.1. One participant

4.5.1.1. Proposition: Phase predicates such as 'start, begin', but also German *erhellen* 'become evident' are members of this subclass.

4.5.1.2. Location: There may be some ingressive ambient process predicates, such as 'get cold'.

4.5.1.3. Entity: Ingressive predicates applying to inanimate entities include 'evolve' and German *erblühen* 'burst into blossom'.

4.5.1.4. Animate: Among ingressive situations involving an animate being, we should make a distinction according to control. However, there are no examples of relevant predicates that require control. Some that do not are 'be born', 'wake up', 'fall asleep', 'faint'.

4.5.2. Two participants

4.5.2.1. Proposition: There is a logical predicate in the subclass of ingressive relationships between a proposition and an animate being, viz. ‘let’. Another one with control on the part of the animate participant is ‘dare’. German *erfahren* ‘get to know’ instead has an experiencer, with much less control. For the bivalent use of predicates such as ‘start’, cf. §4.4.2.1.

4.5.2.2. Location: There are two kinds of ingressive predicates which combine an animate actor with a location as the reference point of the action. The first includes motion predicates such as ‘leave’, ‘go out of’, ‘enter’ etc. This group corresponds to the terminative motion predicates of §4.4.2.2 and allows a similar varation in the affectedness of the location. The second kind are predicates of **body position**, the ingressive counterparts to the stative ones mentioned in 4.2.2.2. This group comprises ‘stand up’, ‘sit down’, ‘lie down’, ‘kneel down’, ‘squat’, ‘cower’.

4.5.2.3. Entity: There are no examples of this subclass.

4.5.2.4. Animate: Some of the ingressive predicates combining an animate actor with an entity as the undergoer signify an act of physical manipulation such as ‘seize’, ‘light’. Most of them, however, relate to **change of possession**. Most important in this group is ‘get’, which is almost a logical predicate and as such functions as the dynamic counterpart to ‘exist/have’. Others are ‘acquire’, ‘accept’, ‘earn’, ‘abandon’. There are also ingressive counterparts to stative predicates, both to position predicates of §4.2.2.2, such as ‘take off’, and to attitudinal predicates of §4.2.2.4, e.g. German *kennenlernen* ‘get to know’. Then there are causative counterparts to monovalent ingressive processes of §4.5.1.4, such as the ingressive social act ‘wake up’.

4.5.3. Three participants

Predicates in this group combine an actor with another, more distantly related animate being and an entity as the undergoer. Examples are ‘lend’, ‘borrow’. They are of the **possession transfer** type, which is obtained if change of possession is combined with an animate entity which is less involved than the possessed entity.

4.6. Events

4.6.1. One participant

4.6.1.1. Proposition: There is a logical predicate, ‘happen’, which is the dynamic counterpart to ‘be the case’ of §4.2.1.1.

4.6.1.2. Location: ‘Lighten’ could be analyzed as an ambient event predicate.

4.6.1.3. Entity: Predicates of events that happen to inanimate undergoers form a large group. Some examples are ‘explode, burst’, ‘bang’, ‘break’, ‘topple’, ‘fall’, ‘drop’, ‘sink’.

4.6.1.4. Animate: An animate being as the sole participant in an event may control it, as in ‘nod’, ‘yell’, or may not, as in ‘stumble’, German *hängenbleiben* ‘get stuck’, ‘sneeze’, ‘vomit’, ‘yawn’. Some of the latter may be analyzed as involving an internal effected undergoer, in which case they would be bivalent. There are also punctual *verba affectuum* such as German *erschrecken* ‘get frightened, be startled’. Some predicates such as ‘cough’ are used with and without control.

4.6.2. Two participants

4.6.2.1. Proposition: All bivalent event predicates with a proposition as one argument have an animate being (normally, in fact, a human being) as the other argument. However, there are differences in control. The animate being controls the propositional argument in such cognitive acts (manifested as *verba sentiendi dynamica activa*) as 'find out', 'guess', 'comply with'. This group also comprises some **verba dicendi**, in which the undergoer, namely a linguistic object, is effected: 'say', 'shout'. The animate being has no control in such inactive cognitive event predicates as 'remember', 'forget'. Many of these predicates appear as such *verba sentiendi (dynamica) inactiva* which take the animate argument, the experiencer, in an oblique position, often as an indirect object. Cf. §3.6.2 on 61.

4.6.2.2. Location: Bivalent event predicates with a location as one argument have an entity, mostly an animate being as the other one. Subdividing according to control, we have control predicates such as 'jump, spring, hop', 'arrive', 'return', and non-control predicates such as 'bounce', 'slide, slip'. Some predicates, such as 'appear' and 'disappear', are insensitive to control. As usual, the location often remains implicit.

4.6.2.2. Entity: Event predicates relating two entities include 'crash', 'graze (touch lightly)'.

4.6.2.3. Animate: The whole gamut of different degrees of control is opened up by bivalent event predicates with an animate participant. Predicates of physical impingement include 'shoot', 'explode', 'break', 'crack', 'fell', 'box', 'hit', 'knock', 'slap', 'pinch', 'bite', 'scratch', 'touch', 'bend'. Predicates of physical manipulation are 'open', 'shut, close', 'cover', 'hide, conceal', 'swallow', 'fix', 'lift', 'turn (off/over/around)'; with an animate undergoer: 'embrace', 'catch'. The latter are close to social acts such as 'save'. Predicates of linguistic manipulation, i.e. bivalent predicates of communication, include 'reject' and, with an animate undergoer, 'lie to' and 'deceive'.

It is especially in this group that partial vs. total affectedness makes a difference. The example predicates have been ordered in this sense (cf. Tsunoda 1981, §3). However, beside lexical differences in this respect, there are, of course, the constructional differences treated in §3.6.3. We have, e.g., *shoot at* vs. *shoot* cum dir. obj. Several of the above may be analyzed as causatives to the monovalent event predicates of §4.6.1.3.

If decrease in control continues, we end up with non-control event predicates. In this group we have predicates of **uncontrolled change of possession** such as 'find', 'lose', including uncontrolled change of mental possession as embodied in such inactive cognitive event predicates as 'remember', 'forget'. (These have a variant with a propositional theme; cf. §4.6.2.1.) See §3.6.2, subsection 1 on typical syntactic manifestations of non-control with such verbs.

4.6.3. Three participants

4.6.3.1. If the undergoer of a trivalent event predicate is a proposition, then the third participant is an animate (preferably human) being just like the actor. If the proposition is an effected linguistic object, the result is a predicate of **communication**, expressed by a **verbum dicendi** such as 'say', 'ask', 'answer'. Such predicates vary in the strength of the mental impact on the human partner. He is only moderately controlled in the foregoing examples, but more so in 'advise', 'warn', 'order', 'forbid'. The syntagmatic gradience of involvement of the two non-actor arguments may be reflected structurally in that the more involved one takes

on the grammatical relation typical for undergoers (direct object/absolutive/inactive), while the less involved one becomes an indirect object or an adpositional complement.

These trivalent predicates have close relationships with bivalent predicates of communication. One of the latter will result whenever the produced linguistic object remains an internal participant, as it does in several of the examples mentioned in §4.6.2.3.

4.6.3.2. The second subtype of trivalent event predicates combines the animate actor with a (typically inanimate) entity as an undergoer and another animate being as a more indirectly involved participant. All of the relevant examples illustrate **possession transfer**, such as ‘give’, ‘present’, ‘sell’, ‘pay’, ‘take’, ‘steal’, ‘buy’.

4.6.3.3. Another important group of trivalent event predicates is obtained by replacing the distant animate participant of the foregoing group by a location. The result are transport predicates such as ‘put’, ‘stick’, ‘lean against’, ‘send’, ‘throw’, ‘remove’, ‘displace’.

4.6.3.4. There are a few event predicates which combine the human actor with two entities. Important in this group are ‘render’ and ‘make’, the factitive and causative counterparts, respectively, of ‘become’ and thus close to logical predicates. Others are ‘turn into’ and ‘replace’.

5. Predicate classes in general comparative linguistics

5.1. Predicate classes and universals

In the foregoing, it has not been made a point to formulate universals of predicate structure and classes. Many of those that have been found earlier have been incorporated into the framework. This regards, in particular, the "hierarchy of verb types" of F5. Within the present framework, this emerges as a set of predicate classes selected from various subclasses of the two-place predicates treated in §§4.3 and 4.4. Most of the presentation in these two sections in fact proceeds in a sense reverse to F5.

Thus, at the end of F5 we find three subclasses of the class of two-place state predicates, viz.: Nº 6, a subclass of those which relate an entity with an entity, namely possessive relationships; Nº 5, essentially the *verba affectuum stativa*; Nº 4, *verba sentiendi stativa*. Nº 4 also contains some *verba sentiendi dynamica inactiva*. It thus marks the turning-point of this continuum, because from there upwards, F5 only contains dynamic predicates. Nº 3 contains certain action predicates whose undergoer is not attained. Nº 2 contains *verba sentiendi dynamica*, but is insofar heterogeneous with respect to the present framework as it combines attentive with inattentive perception, thus bringing some predicates of reduced control into the series 3 – 1, which otherwise only contains predicates with high control. Nº 1, finally, contains verbs of physical impingement, subdivided according to partial and total affectedness of the undergoer.

From the point of view of the present framework, the classes of F5 are essentially ordered according to increasing dynamicity, increasing control and increasing affectedness. At some points, the order of F5 has not been justified within the present framework (but perhaps it could be), at other points it is unexpected, and at other points it might be finer. In general, it appears that the clear empirical generalizations achieved by Tsunoda have been favored by the selection of only some – perhaps prototypical –subclasses from among the whole continuum.

5.2. Predicate classes and typology

Throughout the preceding discussion, there have been scattered remarks on the structural properties of actance frames and verbs representing certain situations or predicates in various languages. It should be clear how typological work might build upon such observations. As an example, consider the place of some subclasses of one-place predicates in a typology of English. Such psychosomatic state predicates as 'be hungry/thirsty/cold/shudder' take an argument which is an undergoer rather than an actor. In German, they may be represented by impersonal verbs such as *mich hungert/ dürstet/ friert/ schaudert* (cf. §4.3). In English, however, such predicates are manifested exclusively by verbs which take a personal subject.

Other subclasses of one-place predicates take a proposition as their argument. These are stative predicates such as 'be possible', be necessary' and dynamic predicates such as 'continue', 'start', 'stop'. In some languages, such as Yucatec Maya, these appear as verbs which take a subject complement clause. The following examples show this use of the verbs *yàan* 'must', *páahtal* 'can', *káah* 'start' and *ts'óok* 'finish'.

E77 yàan in bin
YUC EXIST SBJ.1.SG go
'I have to go.'[48]

E78 k-u páah-tal a xíimbal?
YUC IPFV-SBJ.3 can-PROC SBJ.2 walk
'Can you walk?' (BVS 794.21)'

E79 hach chichn-en ka h káah in bin eskwèela
YUC really small-ABS.1.SG SR PAST start SBJ.1.SG go school
'I was very small when I began to go to school.' (BVS 606.9)

E80 k-u ts'o'k-ol a meyah hun p'éel ha'b
YUC IPFV-SBJ.3 finish-INCMPL SBJ.2 work one CL.INAN year
ah kàambesah-il.
as teach-ADVR
'You finished working a year as a teacher.' (BVS 615.36)

Thus, E77 – E80 are, literally, "my leaving is necessary", "is your walking possible", "my going to school started" and "your working as a teacher finished". This construction comprises a large number of verbs and is productive in the language. One of the consequences of this circumstance is the diachronic development of aspect morphemes out of the governing verbs in constructions such as the above (cf. Lehmann 1987 for details). This is, thus, an essential ingredient of the Yucatec syntactic type.

If we now compare the English translations, we see that such predicates are usually manifested as two-place predicates, with an entity as the personal subject and the rest of the proposition as the complement (thus, as entity-proposition state predicates according to §4.3). It may be readily conceded that English also allows of the "Yucatec construction", just as Yucatec also allows of the "English construction". However, these alternatives play a much less important role in the working of the language than the basic constructions.

In other European languages, at least some of the stative one-place predicates taking propositional arguments are constructed impersonally. Thus, we find *nado* 'it is necessary',

[48] *Yàan* is a little more grammaticalized than the others and therefore does not take a (third person) subject clitic. The use of the existence verb in the expression of necessity is familiar from European languages.

možno ‘it is possible’ and some others in Russian, and at least *il faut* and *bisogna* in French and Italian. In general, however, modal and aspectual verbs such as the above appear mostly as personal verbs, with particular consistency in English.[49] Thus, even such predicates whose cognitive structure would not seem to suggest it, are construed as two-place personal verbs in English, some of them (*start, stop*) even taking a direct object.

There is, thus, a force in English by which predicate notions are preferably construed as personal verbs. Certain predicates which would otherwise be one-place thereby become two-place. These are then subject to a related force which pushes them in the direction of the canonical transitive pattern. The fact that all of the verbs enumerated in F5 are transitive verbs in English is further evidence of this force. In this sense, English may well be called "subject-prominent" (although "topic-prominent" does not appear to be the only conceivable alternative to this typological principle).[50] These findings should be combined with those of Comrie 1981, ch. 3.5, Plank 1983 and Hawkins 1988: semantic differences in role structure which may be brought out by the actance structures in languages such as Russian and, to a lesser extent, German are levelled out by the grammatical relations, especially the subject relation, of English.

5.3. Conclusion

In current cross-linguistic research, the most important role of predicate classes appears to lie in the chances of differentiation that they offer. The grammar of the fundamental relations has dominated research in participation (or actance variation) for quite a while. It has been assumed that languages can be typologized according to the way that they structure just two of all the relations that play a role in this domain, and that the way they do this can essentially be found out by looking at the verbs for ‘kill’ and ‘hit’ and perhaps a handful of similar ones. The example of the preceding section has shown that this procedure may have done justice to English.

Predicate classes themselves should not be seen in isolation. The parameters structuring them are, in principle, the same as those structuring the whole domain of participation. A language cannot build situations *ex nihilo*. It contains a stock of situation-cores or, better, of participatum-cores, in the lexicon. These cores incorporate, lexicalized in a nut-shell, many of those aspects of situations which can be developed to independent expression. Therefore, the parameters that we have found to structure predicate classes are just the lexical aspects of principles that structure the whole domain, including its grammatical and textual-pragmatic aspects.[51]

Abbreviations

Language names

CHINese DYIrbal

---

[49] Ancient Greek may be even more extreme than English in this respect; cf. Coseriu 1987:51-57.

[50] The consequences of such typological properties of English for English-dominated linguistics can only be guessed at. What role would the notions of subject or of transitivity play in comparative linguistics, or what would certain theories of grammatical relations look like, if linguists were not influenced by a language for whose structure such concepts are essential?

[51] The "lexicalization patterns" brought out in the pioneering work of Talmy 1985 are to be seen in this light.

French	Latin
German	Russian
Hungarian	Spanish
Indonesian	Tapirapé
Italian	Thai
Japanese	Trumai
Lakhota	Yucatec Maya

Morphological category labels in interlinear glosses

1, 2, 3	1st, 2nd, 3rd person	INCH	inchoative
ABL	ablative	INCMPL	incompletive
ABS	absolutive	INSTR	instrumental
ACC	accusative	IPFV	imperfective
ACT	active	M	masculine
ADVR	adverbializer	N	neuter
AG	agent	NEG	negator
ANT	antipassive	NOM	nominative
APPL	applicative	PAT	patient
CAUS	causative	PERF	perfect
CL	class	PL	plural
DAT	dative	PROC	processive
D2	2nd ps. deictic	REAL	realis
DEF	definite	SBJ	subject
ERG	ergative	SG	singular
FUT	future	SR	subordinator
GEN	genitive	SUBL	sublative
INACT	inactive	TERM	terminative
INAN	inanimate	TOP	topic

References

Austin, Peter 1982, "Transitivity and cognate objects in Australian languages". Hopper & Thompson (eds.) 1982:37-47.

Ballmer, Thomas T. & Brennenstuhl, Waltraud 1986, *Deutsche Verben.* Eine sprachanalytische Untersuchung des deutschen Verbwortschatzes. Tübingen: G. Narr (EM, 19).

Bolinger, Dwight L. 1972, "Das Essenz-Akzidenz-Problem". Nickel, Gerhard (ed.), *Reader zur kontrastiven Linguistik*. Frankfurt: Athenäum (Schwerpunkte Linguistik und Kommunikations wissenschaft, 10); 147-156.

Bolkestein, A. Machtelt 1985, "Discourse and case-marking: three-place predicates in Latin". Touratier, Christian (ed.), *Syntaxe et latin*. Actes du IIme Congres International de Linguistique Latine, Aix-en-Provence, 28-31 mars 1983. Aix-en-Provence: Universite de Provence; 191-225.

Bolkestein, A. Machtelt 1990, "Sentential complements in Functional Grammar: Embedded predications, propositions, utterances in Latin." Nuyts, Jan et al. (eds.), *Layers and levels of representation in language theory.* A functional view. Amsterdam & Philadelphia: J. Benjamins; 71-100.

Bolkestein, A. Machtelt et al. (eds.) 1985, *Predicates and terms in functional grammar*. Dordrecht & Cinnaminson: FORIS (Functional Grammar Series, 2).

Bossong, Georg 1980, "Syntax und Semantik der Fundamentalrelation". *Lingua* 50:359-379.

Bossong, Georg 1982, "Actance ergative et transitivité. Le cas du système verbal de l'oubykh". *Lingua* 56:201-234.

Bossong, Georg 1985, *Empirische Universalienforschung.* Differentielle Objektmarkierung in den neuiranischen Sprachen. Tübingen: G. Narr.

Carvalho, Paulo de 1986, "'Syntaxe' – en latin?". *BSL* 81/1:275-301.

Chafe, Wallace 1970, *Meaning and the structure of language.* Chicago & London: The University of Chicago Press.

Chao, Yuen Ren 1968, *A grammar of spoken Chinese*. Berkeley & Los Angeles: University of California Press.

Chung, Sandra & Timberlake, Alan 1985, "Tense, aspect, and mood". Shopen (ed.) 1985, III:202-258.

Comrie, Bernard 1976, *Aspect*. An introduction to the study of verbal aspect and related problems. Cambridge etc.: Cambridge UP.

Comrie, Bernard 1981, *Language universals and linguistic typology.*. Syntax and morphology. Oxford: B. Blackwell.

Comrie, Bernard 1985, "Causative verb formation and other verb-deriving morphology". Shopen (ed.) 1985, III:309-348.

Coseriu, Eugenio 1987, *Formen und Funktionen*. Studien zur Grammatik. Tübingen: M. Niemeyer (Konzepte der Sprach- und Literaturwissenschaft, 33).

Daneš, František 1987, "Sentence patterns and predicate classes". Steele, Ross & Threadgold, Terry (eds.), *Language topics*. Essays in honour of Michael Halliday. 2 vols. Amsterdam & Philadelphia: J. Benjamins; I:3-21.

DeLancey, Scott 1981, "An interpretation of split ergativity and related patterns". *Language* 57:626-657.

DeLancey, Scott 1985, "On active typology and the nature of agentivity". Plank (ed.) 1985:47-60.

Derbyshire, Desmond C. 1979, *Hixkaryana*. Amsterdam: North-Holland (LDS, 1).

Dezső, László 1982, *Studies in syntactic typology and contrastive grammar.* Budapest: Akadémiai Kiadó; The Hague etc.: Mouton.

Dik, Simon C. 1978, *Functional grammar.* Amsterdam etc.: North-Holland (North-Holland Linguistic Series, 37).

Dik, Simon C. 1985, "Formal and semantic adjustment of derived constructions". Bolkestein et al. (eds.) 1985:1-28.

Dixon, Robert M.W. 1972, *The Dyirbal language of North Queensland.* Cambridge: Cambridge UP (Cambridge Studies in Linguistics, 9).

Dixon, Robert M.W. 1982, *Where have all the adjectives gone?* and other essays in semantics and syntax. Berlin etc.: Mouton (Jan. Ling. Ser. Mai., 107).

Drossard, Werner 1983, "Kasusrollen im Tagalog: ein intrasprachliches Kontinuum der Kontrolle". *akup* (Köln) 53:67-98.

Duncan-Rose, Caroline & Vennemann, Theo (eds.) 1988, *On language*. Rhetorica – phonologica – syntactica; a festschrift for Robert P. Stockwell from his friends and colleagues. London & New York: Routledge.

Fillmore, Charles 1968, "The case for case". Bach, Emmon & Harms, R.T. (eds.), *Universals in linguistic theory.* New York etc.: Holt, Rinehart & Winston; 1-88.

Finck, Nikolaus 1909, *Die Haupttypen des Sprachbaus.* Leipzig: Teubner.

Foley, William A. & Van Valin, Robert D., Jr. 1984, *Functional syntax and universal grammar.* Cambridge: Cambridge UP (Cam bridge Studies in Linguistics, 38).

García-Hernández, Benjamin 1980, *Semántica estructural y lexemática del verbo*. Reus: Ed. Avesta.

García-Hernández, Benjamin 1988, "Lexematik und Grammatik: die Verbalklassen". *Indogermanische Forschungen* 93:1-21.

Givón, Talmy 1975, "Cause and control. On the semantics of interpersonal manipulation". Kimball, P. (ed.), *Syntax and semantics 4.* New York etc.: Academic Press; 59-89.

Givón, Talmy 1979, *On understanding grammar*. New York etc.: Academic Press (Perspectives in Neurolinguistics and Psycholinguistics).

Givón, Talmy 1980, "The binding hierarchy and the typology of complements". *Studies in Language* 4:333-378.

Godel, Robert 1950, "Verbes d'état et verbes d'évènement". *CFS* 9:33-50.

Groot, Casper de 1983, "Typology of states of affairs". Bennis, H. & van Lessen Kloeke, W.U.S. (eds.), *Linguistics in the Netherlands 1983.* Dordrecht: Foris; 73-81.

Groot, Casper de 1985, "Predicates and features". Bolkestein et al. (eds.) 1985:71-84.

Hawkins, John A. 1988, "The unity of English/German contrasts: inferring a typological parameter". Duncan-Rose & Vennemann (eds.) 1988:361-380.

Heger, Klaus 1967, "Temporale Deixis und Vorgangsquantität ("Aspekt" und "Aktionsart")". *Zeitschrift für Romanische Philologie* 83:512-582.

Heidolph, Karl Erich et al. 1981, *Grundzüge einer deutschen Grammatik.* Berlin: Akademie-Verlag.

Hopper, Paul J. 1985, "Causes and affects". Eilfort, William H. et al. (eds.), *Papers from the parasession on causatives and agentivity at the Twenty-First Regional Meeting*. Chicago: CLS (CLS 21, Part 2); 67-88.

Hopper, Paul J. & Thompson, Sandra A. 1980, "Transitivity in grammar and discourse". *Language* 56:251-299.

Hopper, Paul J. & Thompson, Sandra A. (eds.) 1982, *Studies in transitivity*. New York etc.: Academic Press (Syntax and Semantics, 15).

Ikegami, Yoshihiko 1988, "Transitivity: intransitivization vs. causativization: some typological considerations concerning verbs of action". Duncan-Rose & Vennemann (eds.) 1988:389-401.

Kaye, Alan S. 1989, "Arabic". Comrie, Bernard (ed.), *The world's major languages*. London: Routledge; 664-685.

Kaznelson, S. D. 1974, *Sprachtypologie und Sprachdenken.* München: Hueber (Sprachen der Welt). [Russ. original: Kacnel'son, Salomon D. 1972, *Tipologija jazyka i rečevoe myšlenie.* Leningrad.]

Kiparsky, Paul & Kiparsky, Carol 1970, "Fact". Bierwisch, Manfred & Heidolph, Karl E. (eds.), *Progress in linguistics*. A collection of papers. The Hague & Paris: Mouton; 143-173.

Klimov, Georgij A. 1977, *Tipologija jazykov aktivnogo stroja.* Moskva: Nauka.

Lazard, Gilbert 1984, "Actance variations and categories of the object". Plank, F. (ed.)., *Objects.* Towards a theory of grammatical relations. London & New York: Academic Press; 269-292.

Lazard, Gilbert 1985, "Anti-impersonal verbs, transitivity continuum and the notion of transitivity". Seiler, Hansjakob & Brettschneider, Gunter (eds.), *Language invariants and mental operations*. International interdisciplinary conference held at Gummersbach/Cologne, Germany, Sept. 18-23, 1983. Tübingen: G. Narr (LUS, 5); 115-123.

Lazard, Gilbert 1985, "Les variations d'actance et leurs corrélats". *Actances* 1:5-39.

Lehmann, Christian 1982, "Nominalisierung: Typisierung von Propositionen". Seiler, H. & Lehmann, Ch. (eds.), *Apprehension. Das sprachliche Erfassen von Gegenständen.* Teil 1. Tübingen: G. Narr (LUS, 1, I); 66-83.

Lehmann, Christian 1983, "Rektion und syntaktische Relationen". *Folia Linguistica* 17:339-378.

Lehmann, Christian 1985, "Ergative and active traits in Latin". Plank (ed.) 1985:243-256.

Lehmann, Christian 1987, "Theoretical implications of processes of grammaticalization". Paper prepared for the Wenner-Gren Foundation Conference on 'The Role of Theory in Language Description', Jamaica, Ocho Rios, Oct. 31 – Nov. 8, 1987.

Leite, Yonne 1987, As cisões no sistema referencial de pessoa em Tapirapé. Rio de Janeiro.

Lichtenberk, František 1982, "Individuation hierarchies in Manam". Hopper & Thompson (eds.) 1982:261-276.

Lyons, John 1977, *Semantics.* 2 vols. Cambridge etc.: Cambridge UP.

Meillet, Antoine 1902, *Études sur l'étymologie et le vocabulaire du vieux slave.* Première partie. Paris: Bibliothèque de l'École des Hautes Études, fasc. 139.

Mithun, Marianne 1988, When grammaticization is superfluous: the case of subjects. Symposium on Grammaticalization, Eugene, OR. Santa Barbara: University of California.

Monod-Becquelin, Aurore 1976, "Classes verbales et construction ergative en trumai". *Amerindia* 1:117-143.

Mosel, Ulrike 1984, *Tolai syntax and its historical development*. Canberra: Australian National University (Pacific Linguistics, Series B – No. 92)).

Paris, Catherine 1985, "Relations actantielles et valence verbale en avar: effacement de l'actant et mise au jour du sens". *Actances* 1:135-153.

Payne, Doris L. 1982, "Chickasaw agreement morphology: a functional explanation". Hopper & Thompson (eds.) 1982:351-378.

Pilot-Raichoor, Christiane 1986, "Morphologie, variations d'actance et effets de diathèse en badaga". *Actances* 2:151-173.

Pinkster, Harm 1988, *Lateinische Syntax und Semantik*. Tübingen: A. Francke (UTB, 1462).

Plank, Frans 1983, "Transparent versus functional encoding of grammatical relations: a parameter for syntactic change and typology". *Linguistische Berichte* 86:1-13.

Plank, Frans (ed.) 1985, *Relational typology.* Berlin etc.: Mouton Publ. (Trends in Linguistics, Studies and Monographs, 28).

Pustet, Regina 1989, *Die Morphosyntax des "Adjektivs" im Sprachvergleich*. Frankfurt etc.: P. Lang (Continuum, 7).

Seiler, Hansjakob 1973, "On the semantosyntactic configuration 'possessor of an act'". Kachru, Braj et al. (eds.), *Issues in linguistics*. Papers in honor of Henry and Renée Kahane. Urbana etc.: University of Illinois Press; 836-853.

Seiler, Hansjakob 1984, Die Dimension der Partizipation. Unpublished lecture notes 1983/84. Köln: Institut für Sprachwissenschaft der Universität.

Shopen, Timothy (ed.) 1985, *Language typology and syntactic description.* 3 vols. Cambridge etc.: Cambridge UP.

Siewierska, Anna 1988, *Word order rules*. London etc.: Croom Helm (Croom Helm Linguistics Series).

Talmy, Leonard 1985, "Lexicalization patterns: semantic structure in lexical forms". Shopen (ed.) 1985, III: 57-149.

Tsunoda, Tasaku 1981, "Split case-marking patterns in verb-types and tense/aspect/mood". *Linguistics* 19:389-438.

Tsunoda, Tasaku 1985, "Remarks on transitivity". *JL* 21:385-396.

Van Valin, Robert D., Jr. 1977, *Aspects of Lakhota syntax.* A study of Lakhota (Teton Dakota) syntax and its implications for universal grammar. Berkely: University of California PhD diss.

Vester, Elseline 1983, *Instrument and manner expressions in Latin*. Adverbs, noun phrases, prepositional phrases with *cum* and *per* and the ablative of the gerund [Dissertation Universiteit van Amsterdam]. Assen: Van Gorcum (Greek and Latin Linguistics, 2).

Viberg, Åke 1984, "The verbs of perception: a typological study". Butterworth, Brian et al. (eds.), *Explanations for language universals*. Berlin etc.: Mouton (*Linguistics* 21/1); 123-162.

Wandruszka, Ulrich 1984, "Subjekt und Mitteilungszentrum". *Romanistisches Jahrbuch* 35:14-35.

Weisgerber, Leo 1958, *Verschiebungen in der sprachlichen Einschätzung von Menschen und Sachen.* Köln & Opladen: Westdeutscher Verlag (Wissenschaftliche Abhandlungen der Arbeitsgemeinschaft für Forschung des Landes Nordrhein-Westfalen, 2).