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EVENT STRUCTURE

by

Jan van Voorst

A thesis submitted to
the School of Graduate Studies and Research
of the University of Ottawa
in partial fulfillment of the requirements for
the degree of Doctor of Philosophy

Ottawa

April 1986

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Department of Linguistics
University of Ottawa
550 Cumberland
Ottawa K1N 6N5
Canada

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ABSTRACT

In this thesis a relation is established between the semantics of the subject and the direct object noun phrase and aspect. The notion of event will be central to my analysis. Events have a beginning and an end. This means in temporal terms that events have a point in time at which they begin and a point in time at which they end. However, events are not defined in this thesis in temporal terms but in spatial terms. This means that they are defined in terms of the location that can be used to identify their beginning and the location that can be used to identify their end. These two locations are denoted by the subject and the direct object NP respectively. The name of the event is provided by the verb. It is these three notions that make up Event Structure: the location of the beginning, i.e. the object of origin; the location of the end, i.e. the object of termination; and the event itself. The three primitives are independently motivated in the domain of tense interpretations of sentences. Their presence or absence affects these interpretations in a systematic way.

An important theoretical consideration of my analysis is that semantic notions are only relevant to a grammatical system when they strictly tie in with phenomena occurring in that system. This means in a more traditional way that there must be a strong connection between form and meaning. The relation between Event Structure and the grammatical system is shown throughout this thesis. Different phenomena in English, Dutch and French are explained in terms of Event Structure.

Subject semantics is analyzed in terms of the notion of object of origin or in terms of the related notion of object of actualization. Unaccusativity is shown to be directly related to the presence of an object of termination in an intransitive construction. Passive is sensitive to the presence of an object of origin or of actualization in the construction it operates on. Resultative constructions can be understood better when direct objects occurring in them are not analyzed as objects of the action but as pure objects of termination. Finally, a tentative analysis is given of the semantics of the French reflexive in terms of Event Structure semantics. This analysis is also based on the theoretical assumption that there is a close relation between form and meaning.

The notion of Event Structure specifies the location of the origin and the termination of the event but not the location of the event itself. The location of the event can be determined through the semantic system of Involvement, which is indirectly related to Event Structure. This system also stands in a close relation to the grammatical system, as it predicts possibilities of intransitivization.

In short, when aspect is defined in nontemporal terms, an interesting relation can be established between such obviously nontemporal phenomena like subject selection etc. and temporal phenomena like tense interpretations of sentences. Aspect, under this approach, represents the way people see events, as has often been stated in the literature. However, it is not the way people interpret events at their own will that is important. What is important is the relation between the structure of the event and the ways they are perceived.

CONTENTS

Acknowledgements	iv
Abstract	v
Chapter I: INTRODUCTION	1
General Outline	1
Model of Grammar	9
Some General Consequences	20
Outline of the Thesis	23
Chapter II: EVENT STRUCTURE	27
Introduction	27
Stativity and the Progressive	31
Event Structure	36
The Nature of the Event in Event Structure	47
Chapter III: THE SEMANTICS OF THE SUBJECT	59
Introduction	59
Intransitive Constructions	63
Transitive Constructions	77
General Consequences	83
Chapter IV: UNACCUSATIVITY	95
Introduction	95
The Syntactic and Morphological Motivation for Unaccusativity	98
Semantic Arguments for Unaccusativity	107
Resultatives	110
Accomplishment Verbs	114
Conclusion	131
One Consequence	133
Chapter V: PASSIVIZATION	140
Introduction	140
Personal and Impersonal Passive	142

Stativity	147
Definitions of Stativity	153
 Chapter VI: RESULTATIVES	 160
Introduction	160
An Analysis In Terms of Event Structure	163
Simpson's Analysis of Resultatives	170
 Chapter VII: INVOLVEMENT	 179
Introduction	179
The Semantics of Involvement	180
Unergative Intransitivization	188
Unaccusative Intransitivization	191
Achievement Verbs	193
"The Affected Agent"	196
 Chapter VIII: TENSE	 204
Introduction	204
Time Adverbs	209
Tense and Aspect	212
Some Extensions	218
 Chapter IX: An Aspectual Analysis of the French Reflexive	 226
Introduction	226
An Aspectual Interpretation of the Reflexive	234
Tense	247
Conclusion	252
 Bibliography	 255

Chapter I

INTRODUCTION

1.1 General Outline

In this thesis, I develop a theory for a part of natural language semantics that does not only play a role in semantic description but is also relevant to the functioning of the rules in a grammar. This theory will incorporate notions from studies on state and event semantics in order to explain phenomena like the possibilities of passivization, the reason why a subset of intransitive verbs have derived subjects, subject selection etc. Data from English and Dutch will form the base of my analysis. It is not my aim to give an indication of what a complete system of natural language semantics may look like, as has been attempted in Katz and Fodor (1964), Gruber (1976), Jackendoff (1972), (1975), (1983) etc. I will only concentrate on a subset of semantic phenomena presupposing that this subset fulfills a very specific role in the grammar. In terms of the model of grammar developed in Jackendoff (1983), this implies that a distinction is made between semantics that figures in the conceptual component, Jackendoff's "semantic" component, and a subset of this semantics that plays a role in the correspondence rules. These rules relate conceptual structures to the grammatical system. I will return to this model of grammar later on in this introduction.

The study of semantics as closely related to the grammatical system is far from new. The semantics of case morphemes has been studied from this perspective since the ancient Greeks, as has been outlined in Hjelmslev (1935). Hjelmslev's own semantic analysis of case systems of different languages and Jakobson's (1936) study of the Russian case system are interesting modern examples of this type of approach. In this historical context, my thesis is a revitalization of such an approach, but I use relatively recent semantic and syntactic notions, such as Event Structure and unaccusativity. This way of analyzing grammatical phenomena semantically has been neglected in more recent times, as will become clear in the discussion of different semantic and syntactic approaches to lexical phenomena in the next few paragraphs.

Although much research has been done in the last 30 years, namely in natural language semantics, on the one hand, and the lexicon on the other, it is hard to find studies that tie in semantic research with grammatical phenomena or vice versa. An extreme example on the "lexicon side" of this spectrum is Lexical Functional Grammar. As argued in Bresnan (1982), verbs have to be specified in the lexicon according to the different environments in which they may occur in syntactic structure. These environments are related to each other using various lexical rules. No attempt is made to uncover semantic generalizations in this part of the lexicon. For instance, no explanation is given for why the verb in (1) may occur in a passive context, as in (2) or in an intransitive context, as in (3). (2b) and (3b) contain the rules of passivization and intransitivization of Lexical Functional Grammar. These rules manipulate grammatical relations that are contained in so-called functional argument structures, as in (1b).

(1) a Fred reads Russian novels

b READ ((SUBJ)(OBJ))

(2) a These novels were read by Fred

b READ((SUBJ)(OBJ))<-->READ((OBL)/O,(SUBJ))

agent theme

agent theme

(3) a Fred reads easily

b (OBJ)-->O

The introduction to Hoekstra et al. (1980) gives two basic reasons for the formulation of lexical rules to set them off from transformational rules. First they are local and only operate in the subcategorization domain of a verb which is not necessarily the case for transformational rules like wh-movement. Secondly, lexical rules have exceptions. This is the case, for instance, for passivization which does not apply to all transitive verbs in English. Again nothing is said about the reasons behind the exceptional nature of lexical rules. Regardless of which model of grammar is chosen, this remains an important linguistic issue and mere specification of the environments in which a verb may occur seems hardly satisfying from a more general explanatory point of view.

Relational Grammar is a model of grammar that tries to link semantics and grammatical phenomena in some areas. In Perlmutter (1978), intransitive verbs with a derived subject and the ones without a derived subject are distinguished in terms of the semantic notion of activity. The agent-subjects in (4) are nonderived; the patient-subjects in (5) are derived. In terms of this model of grammar, this means that the patient-subjects in (5) have been promoted from a 2, which stands for

the grammatical relation of direct object, to a 1, which stands for the grammatical relation of subject.

(4) a He is sleeping

b He is working

(5) a The vase broke

b The boat sank

.It is claimed that in Dutch, and in other languages, this division correlates with the division the rule of impersonal passive creates within the complete set of intransitive verbs. Intransitive verbs, as in (6), that can undergo this rule belong to the subset of intransitive verbs that have nonderived subjects. Those that do not undergo the rule, as in (7), belong to the subset of verbs with derived subjects. The impersonal passive construction is characterized by the presence of the grammatical formative er 'there' in subject position and passive morphology.

(6) a Er wordt daar geslapen

there is there slept

'Some people are sleeping there'

b Er wordt daar gewerkt

There is there worked

'Some people are working there'

(7)*a Er wordt daar gebroken (door de vaas)

there is there broken (by the vase)

*b Er wordt daar gezonken (door de boot)

there is there sunk (by the boat)

Claims made in Relational Grammar regarding the correlations between rules of grammar, semantics and deep structure, which is comparable to their basic stratum, are worth noting. I will show, in chapter 4, however, that they are based on wrong assumptions. The phenomenon of impersonal passive, among others, must not be linked up with semantic notions like activity but with notions from the domain of aspect. This can be demonstrated easily by using intransitive motion verbs in Dutch. When a verb is accompanied by a directional PP; as in (8b); impersonal passive is not possible. When this directional is omitted the construction is allowed, as in (9b). The subject in both sentences is actively involved, or can be considered an agent. The sentences differ, however, with respect to the aspectual notion of accomplishment, which is discussed in detail in Vendler (1967). (8a) implies the accomplishment or the termination of the event; (9a) does not. I will come back to this notion later on.

(8) a Hij liep de deur uit

'He walked out the door'

*b Er werd de deur uitgelopen

there was the door out walked

(9) a Zij liepen daar

'They were walking there'

b Er wordt daar gelopen

there is there walked

'People are walking there'

Semantics and rules of the grammar have also been linked up in studies within the framework of case grammar, as developed in Fillmore

(1968). One example of this linkage is the subject selection hierarchy. NPs are marked for so-called case roles in this framework. These roles, which are basically determined pragmatically, range from agent and object, or patient in later studies, to instrument and location. Using this system, Fillmore has tried to explain the phenomenon of subject selection in English. The hierarchy in (10) predicts which case roles can be found in subject position. When the agent role is absent from the case role frame of the verb in (11a), the instrument will occur in subject position (11c). When the instrument is also absent, the object will occur in subject position, as in (11d).

(10) Subject Hierarchy: If there is an Agent, it becomes the subject; otherwise, if there is an Instrument it becomes the subject; otherwise the subject is the Agent.

(11) a Open + ____Object(Inst)(Agent)

b John opened the door with a chisel

c The wind opened the door

d The door opened

However, this proposal is descriptively inadequate, because the ungrammaticality of the sentence in (12) cannot be explained on the base of the subject hierarchy alone. The instrument is rightly selected as the subject over the object the soup, and the Agent NP is absent.

(12)* This spoon eats the soup

Although this attempt to link grammatical and semantic phenomena is also worth noting, it is, like the Relational Grammar proposal, inadequate. The failure of the Subject Hierarchy leads to two conclusions. One is

that this hierarchy is basically correct. In that case, we need either to modify it in order to accomodate (12) in the theory of Case Grammar or we need to consider (12) as an exception. The second conclusion is that case roles are not the right notions to explain subject selection. It is the latter conclusion which I will follow up in chapter 3. I will show that assumptions these authors make on the relevance of case role semantics to the semantic description of both subject selection and other phenomena looked at in this thesis, are unfounded. One of the most striking examples of this is the division of intransitive verbs into two groups: those verbs with derived subjects and those with non-derived subjects. This distinction, as will be shown, is not based on case role semantic notions, but on aspectual notions. The advantage of using aspectual notions here is that they make up only a limited number of primitives that are not freely expandable. A theory of case or thematic roles does not put a limit on the number of primitives. Case roles can be added at random or individual case roles can be subdivided to create more primitives, as is done in Peterson (1983). This makes this type of theory difficult to prove wrong, as counterexamples can always be incorporated in it. This is not the case for my own aspectual approach. Only a very limited number of primitives are contained in it. Counterexamples cannot be freely incorporated and each one forms a potential treat for the hypotheses made within this framework.

We saw that Lexical Functional Grammar lists grammatical phenomena without taking into account semantic generalizations that can be made about these phenomena. Relational Grammar and Case Grammar try to do so, but often start out from inadequate assumptions. On the other hand,

there are purely semantic studies that make no reference to rules of grammar. One such type of study is of crucial importance to this thesis. It deals with verbal aspect and related verb typology. Vendler (1967), Dowty (1979) and others have studied verbal aspect in connection to verb typologies in depth. Studies like these, however, do not take into account phenomena like passive, intransitivization, etc. to motivate the typologies or the different semantic notions contained in them. We can thus find verbs that may and verbs that may not undergo passive in one and the same semantic category. To have and to own in (13) are, for instance, both stative in Vendler's approach, but only to own can passivize, as shown in (14). Vendler's definition states that nonstative constructions denote processes going on in time, but that stative constructions do not.

(13) a He had that car

*b That car was had by him

(14) a He owns that car

b That car was owned by him

It follows from the above that if we want to use aspectual notions, in particular stativity, to explain where passive is possible, and where it is impossible, we have to redefine these notions. Aside from this problem, it will become clear that the basic notions from research done on aspectual semantics within the philosophical tradition are very useful for the phenomena I will examine.

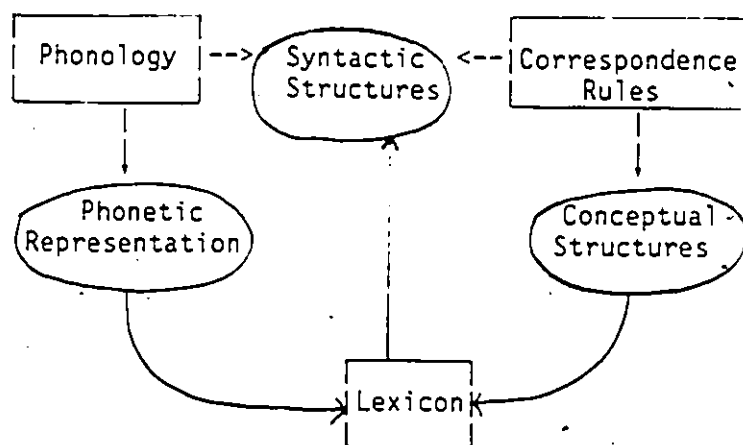
1.2 Model of Grammar

So far we have seen how certain ways of analyzing grammatical phenomena fail to explain how these phenomena are related to semantics. Most approaches stipulate some connection but, unfortunately, not in the right way. All of these approaches are embedded in a specific model of grammar. Lexical Functional Grammar makes use of a huge lexicon containing verbs that are specified by using grammatical relations for the different environments they may occur in. Relational Grammar uses a system of promotion rules that relate different strata, or levels of derivation. Case Grammar uses a lexicon with verbs specified for the case role environment they may occur in and a system of rewrite rules. Studies in aspectual semantics do not use any formal mechanism in particular, although Dowty (1979) makes use of the Montague framework to embed his proposals in. Independently from considerations relating to the formal mechanisms used under each of these approaches, we can still consider their value for the line of research pursued in my thesis.

As I will be concentrating on semantic and syntactic phenomena, we need at least some kind of a semantic and syntactic component in the model of grammar we will be using. As far as the semantic component is concerned, it can be said that it is lacking in Lexical Functional Grammar, Relational Grammar and Case Grammar. Certain semantic primitives, however, are related to the elements at the basic level of derivation in these frameworks. These primitives are basically equivalent to case roles. This linkage is not always well motivated, as said before, in that it does not provide the right semantic base for the different grammatical phenomena it is supposed to explain.

A model of grammar that is better suited to the kind of program I will develop is the one proposed in Jackendoff (1983). This model can be considered an addition to the Government and Binding model of Chomsky (1981). The advantage of it is that it does not only cover a subpart of the grammar, like the models discussed above, but has a wider scope. The organization of Jackendoff's model is given in (15). The lexicon consists of a list of words with their syntactic, semantic and phonological properties. The Conceptual Structure Component contains the possible semantic interpretation of sentences in Syntactic Structure. The component of Correspondence Rules gives an account of how this interpretation is related to deep structure.

(15)



The Chomskian model contains the components and principles given in (16). Only the principle of θ -role assignment and, to a lesser degree, case assignment, will be of importance to my thesis. I will return to these principles shortly.

(16) a Subcomponents of Grammar

- (i) lexicon
- (ii) syntax
 - (a) categorial component
 - (b) transformational component
- (iii) phonological form component
- (iv) logical form component

b General Rules and Principles

- (i) bounding theory
- (ii) government theory
- (iii) θ -theory
- (iv) binding theory
- (v) case theory
- (vi) control theory

Problems of how to integrate both models of grammar need not concern us here. What is important to the present discussion is that conceptual notions that are mapped onto the grammatical system through correspondence rules in (15) are to play an important role in the grammatical system covered by (16). The aspectual notions proposed in this thesis have to be part of the grammar in (16) in such a way that rules of grammar can be sensitive to the presence or absence of them in a semantic description. One way of including these aspectual notions in the Chomskian model is to consider them to be assigned in the form of θ -roles. This implies a change in the semantic content of these roles, as they are usually said to cover such notions as agent, patient, theme etc. These notions denote the roles played by various entities in an

event within a certain pragmatic setting. The aspectual notions developed in this thesis denote the position of an entity within what will be called Event Structure. They do not denote roles of participants in an event but roles of constituents of an event. This approach may eventually be extended to phrasal categories other than the subject and direct object NP. This I will not do in my thesis, as I will alone concentrate on these two syntactic categories.[1]

Abolishing notions like agent, patient etc. as the ones being covered by the semantic content of θ -roles in the Chomskian model will not pose too many problems, as their status in the grammatical system is unclear anyway. It is not possible, first of all, to determine the θ -roles of NPs in different argument structures without making reference to interpretive phenomena, which are not available at the level of the lexicon, as argued in Styan (1983). For instance, Styan shows that the role of the subject NP Diana in sentence (17a) is not apparent. This NP can be an agent, as well as a patient. In the former case the entity denoted by Diana does the moving herself, as in (17b); in the latter case this entity is moved by someone else, as becomes clear from (17c).

(17) a Diana moved from Key West to Charleston

b Diana moved from Key West to Charleston
intentionally

c Uncle Sam moved Diana from Key West to
Charleston

We can add that it is not possible to prove that these roles have a function in the grammar on the basis of the phenomena studied in this thesis. It is, for instance, impossible to say anything interesting

about subject selection or unaccusativity by using these roles, as will be shown in chapter 3 and 4 respectively. It is clear that this point relates to the first point. The absence of these roles from the semantic structure of a sentence implies that rules of grammar cannot be sensitive to them.

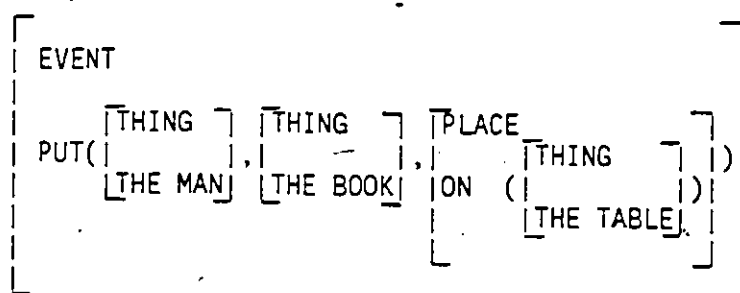
The notions that are grammatically relevant belong to the domain of aspect, or Event Structure, as we will call it. (17a), to give one preliminary example of my approach, represents an accomplishment in the sense of Vendler (1967). It is the NP Diana that tells us that the event has an ending and that something is accomplished. In my approach, this NP functions as the object of the event's termination. Now the meaning of (17a) implies only that an entity, Diana, has ended up in Charleston, because it was part of the event of moving. Nothing is implied in (17a) about the entity that made the event get started. This latter fact explains the ambiguity of this sentence as expressed by (17b) and (17c). This analysis is an example of a fundamental difference between a semantic theory that takes into account a close relationship between form and meaning, and one that does not. The former theory will explain the reason why an ambiguity exists. The latter theory will only give a description of the different interpretations an ambiguous construction allows.

Jackendoff's (1983) model is especially interesting for the program of research that I will pursue: it allows one to make a distinction between semantics relevant to semantic description in general, Jackendoff's conceptual structures, and semantics relevant to the functioning of rules of grammar. The latter type of semantics is a subset of the

semantics contained in the Conceptual Structure Component and is relevant to the functioning of correspondence rules that relate conceptual and syntactic structures. Within this model of grammar it is assumed that there exists a close relationship between conceptual structures and syntactic structures. This means in more traditional terms that there is a close connection between form and meaning.

The specification of verbs in Jackendoff's model looks as in (18). Each verb has a number of argument places that are filled to form a complete conceptual constituent. The capitalized words in (18) denote major ontological categories.

(18)

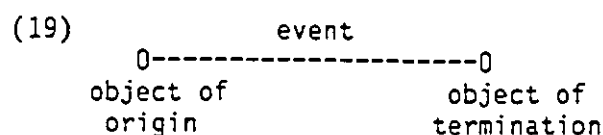


The way (18) is realized in deep structure is simple. The first argument stands for the deep structure subject; the second one for the direct object etc. Thus deep structure here is repeated in the conceptual specification of a verb, though indirectly.

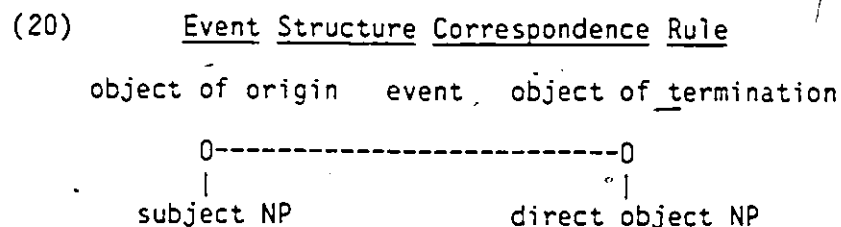
By formulating a correspondence rule we can avoid this duplication of structures. In the Chomskian model this means that it will be possible to predict θ -role (semantic) role and case assignment features using the conceptual structure. These two types of features predict the deep structure configuration or the subcategorization frame a verb may occur in. I will give one example of how this system of conceptual

structures, correspondence rules, θ -role assignment and case assignment works. I will then go on to give an example of how this system predicts how certain grammatical rules can be applied.

The conceptual structure that is of particular interest to us is the structure that can be attributed to events. Events are analyzed as in (19), as being delimited by an object of origin and an object of termination.



A correspondence rule uses this conceptual structure and links it to deep structure positions in syntax. The deep structure subject denotes the object of origin and the object of termination is expressed by the deep structure direct object in transitive constructions.



The correspondence rule in (20) explains, first of all, why subject NPs are indeed subject NPs in English and Dutch. The subject NP in nonstative sentences (i.e. sentences that represent an event) denote, in general, the entity that can be used to identify the origin of the event. For instance, the event of breaking in (21a) comes about because of the interference of the entity denoted by he and the event of eating in (21b), because of the initiative of the entity denoted by Peter.

- (21) a He broke the vase
 b Peter ate the pie

Sentences like (22) are one of the exceptions in English to the above assumptions. The subject NP the key in (22) is not the origin of the event. That origin is the person who turned the key. The key, in other words, does not do the opening by itself.

(22) The key opened the door

In chapter 3, I will discuss these cases and alter the definition of the subject in English to incorporate (22).

Starting out from the conceptual structure of the event, we can predict, using correspondence rule (20), what the subject NP will be and what the direct object is the deep structure containing a transitive construction. In (21), the entities denoted by both direct object NPs can be used to identify the termination or the accomplishment (Vendler (1967)) of the event. The broken state of the vase and the eaten state of the pie serve to identify these entities as an object of termination. The case and θ -role assignment properties of a verb can be determined using the the derivation in (23). The argument the vase in (23) is realized as the deep structure direct object and gets objective case. The argument he is realized as the subject and gets nominative case through the INFL node.

(24) a He has a red car

*b A red car is had by him

(25) a He ate the pie

b The pie was eaten by him.

A proper definition of stativity is of crucial importance here. I will therefore devote a large part of chapter 3 on subject selection and of chapter 5 on passive to this issue. The conclusion will be that we have to distinguish facts from events rather than states from events. The notion of fact, like the other two notions, has been defined in Vendler (1967).

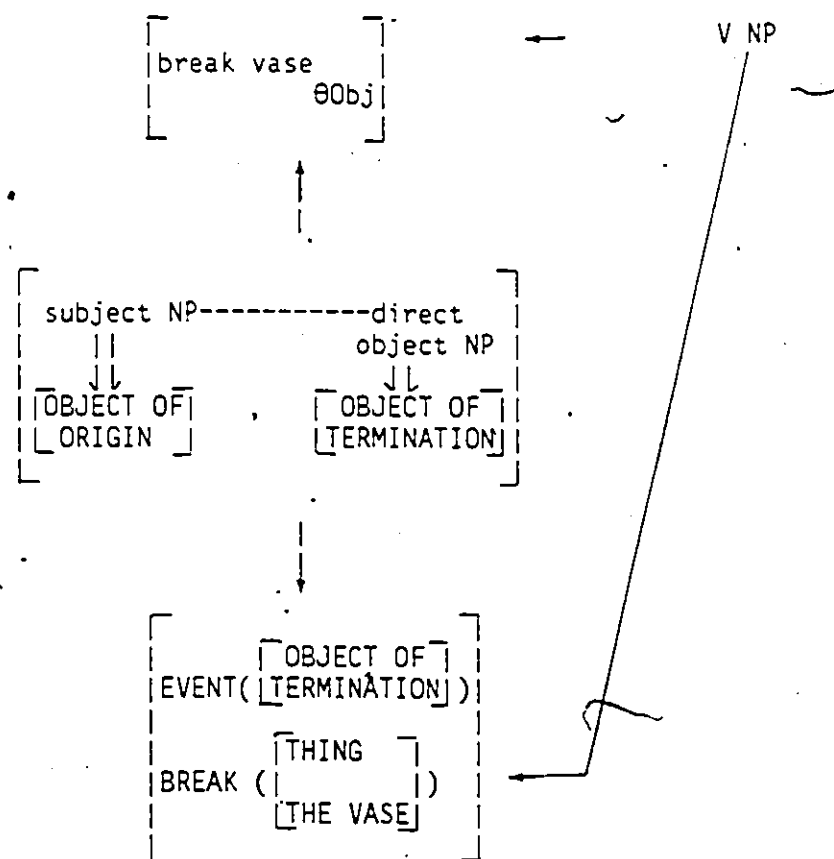
A second phenomenon, that will be explained in chapter 4 using (23), is the distinction that is made between intransitive verbs that have a derived subject and those having a nonderived subject. This division of intransitive verbs can be found in Perlmutter (1978) and Burzio (1981). I will show that the former type of intransitive construction expresses accomplishment and contains an object of termination accordingly. The object of termination, according to (23), is always realized as the deep structure direct object in transitive constructions. This may be a reason to consider the only argument of an intransitive accomplishment as occurring in direct object position in deep structure as well. The class of intransitive accomplishment verbs includes most of the so-called unaccusative verbs in Perlmutter's approach plus many others. Examples of intransitive accomplishment verbs are given in (26). A way to show that we are dealing with an accomplishment is the insertion of an adverb denoting a time period. This leads to the ungrammaticality of the sentence, as has been noted in Vendler (1967) and Dowty (1979).

(26) a The vase broke (*for an hour)

b The boat sank (*for an hour)

(27) shows us the mapping of the conceptual structure -the event "the vase broke"- onto deep structure. The case assignment system will take care of the movement of the NP the vase into subject position. The derivation in (27) is only tentative. There are no strong arguments against mapping the object of termination directly onto the subject NP. Notwithstanding this problem, I will assume (27) to be correct, because it makes possible to generalize the mapping procedure over transitive and intransitive constructions. [2]

(27)



1.3 Some General Consequences

The use of the conceptual structure of the event within a grammatical model such as Jackendoff's, makes it possible to explain various phenomena in the grammars of Dutch and English. This conceptual structure can also be put to use in another domain of research, namely in that of language acquisition. As argued in Hornstein and Lightfoot (1977), a child is confronted with a "threefold inadequacy in the evidence one might reasonably assume to be relevant to the acquisition process". These inadequacies are:

- 1) The raw data are not always perfect
- 2) Ability attained applies to structures far beyond those available in the data that the child is actually exposed to.
- 3) Ability attained involves knowledge of principles which are scarcely, if at all, attested to in the primary linguistic data available to the child while acquiring the mastery it attains.

Hornstein (1977) shows how children can analyze tense semantics so that using a few primitives they can learn this system. These are basically Reichenbach's (1947) notions of moment of speech, reference point and moment of event. The article, however, seems to concentrate more on theory-internal aspects of tense semantics than on acquisition. Hornstein tacitly assumes that if the linguistic analysis is descriptively and explanatorily adequate, the link with acquisition comes about automatically. One can avoid answering the question "where do the three primitives come from in the first place" by saying that they are innate.

We can use these ideas to analyze things said earlier in this chapter. First, suppose that the generalizations made in the domain of event and state semantics are descriptively and explanatorily adequate. We can say then that Event Structure provides us with the semantic primitives or universals necessary for language acquisition. Mapping these primitives onto syntax using a correspondence rule generates the right deep structure. A different formulation of the correspondence rule may account for the variation that exists among languages in this domain. Now we can go one step beyond Hornstein and state that Event Structure is not just a language universal like, presumably, the primitives in tense semantics, but that it is also a unit of cognition, or, more specifically, a unit of perception.

Unfortunately, the notion of event structure has not been explored extensively in studies on event perception. Cutting (1981), in an article on event perception, assumes it to be common sense that events have a beginning, a middle and an end. Other studies on event perception like Restle (1979) and Johansson et al. (1980) concentrate mainly on what it is that constitutes a unified event and not on how an event is structured. A more recent collection of articles, Warren and Shaw (1984), seems to stress the structure of the event more. I will close off this section by giving one example of how the findings in psychological studies can be of importance to linguistics. Warren and Shaw propose to analyse an event as consisting of transformational and structural invariants. These terms are used to describe "the precise information for the style of change characteristic of an event, and the information for those structural properties that remain constant under

that change" (page 13). Warren and Shaw continue to describe motion events in these terms. For instance, the event of a rotating book has as its constant structural properties the rigidity of the substance of the book and its location. The transformational invariant of the event is the rotational style of change. We can extend this line of reasoning and consider not only the structural properties that remain constant under a change, but also those that are constant before and after the change. One of the constant structural properties at the beginning of an event is the rigidity of the entity in which the event originates. One of the constant structural invariants at the end of an event is the rigidity of the object of termination. The above implies that my approach to events can be easily transferred to the domain of perception. This is because events are analyzed in spatial terms. Events are analyzed in terms of objects in reality that are used to identify the beginning and the end of the event. In different words, events are analyzed in terms of objects that can be used to identify its location. Events are not analyzed in temporal terms, as is done in so many linguistic studies on aspect. I will discuss some of these studies in chapter 2.

The above remarks are, however, highly speculative, because there is little in studies on event perception that confirms my linguistic ideas concerning events. This will, therefore, be all I have to say about the psychological value of the linguistic notion of Event Structure.

1.4 Outline of the Thesis

This thesis is built up as follows. Chapter 2 discusses the semantics of aspect and verb typologies. In this chapter, I will introduce the notion of Event Structure and contrast my own spatial definition of it with other temporal definitions. The event will be analyzed as delimited by an object of origin or actualization and an object of termination. I will show the difference between notions from the aktionsarten domain and notions from the aspectual domain using the primitive of Event Structure. In chapter 3, it will be shown how the semantic nature of the subject NP in Dutch and English is predicted by Event Structure. The subject NP denotes the object of origin of an event in Dutch and the object of actualization in English. An important point in this discussion is the distinction between nonstative and stative constructions. Nonstative constructions mark an event and exhibit event structure. Stative constructions do not mark an event but only imply the predication of a property, which is expressed in the VP rather than the entity denoted by the subject NP. A set of superficially similar data in Dutch and English will be distinguished along these lines. These are stative data in Dutch and the middle data in English, which is analyzed as nonstative. In chapter 4, the semantics of a subset of intransitive verbs will be explained using the notion of Event Structure. This is the subset that is called 'unaccusative' in the framework of Relational Grammar and 'ergative' in the framework of Government and Binding. The verbs, which occur in this subset, group together because they all select a subject NP that denotes an object of termination. Case role semantic notions, as has been assumed in the literature, are not rele-

vant to typifying these verbs semantically. Again, the stative issue will play an important role in the discussion. A large number of the unaccusative verbs will be analyzed as stative, rather than nonstative. Stative verbs do not belong to the class of unaccusative verbs. In chapter 5, the findings of chapter 3 and chapter 4 are extended into the domain of the passive. Passive constructions can only be realized on the base of argument structures that contain an object of origin or actualization. For passive of intransitive constructions in Dutch, this means that the passive of stative and unaccusative constructions is not possible. The only Dutch and English transitive constructions that cannot occur in a passive environment are the statives; since there are no unaccusative transitives. In chapter 6, the notion of Event Structure will be used to explain certain semantic phenomena in resultative constructions. Chapter 7 extends the idea of the notion of Event Structure, and its definition, into the domain of intransitivization. A system of Involvement Semantics will be proposed that in part relates to Event Structure. Chapter 8 is devoted to the interaction of tense interpretations of sentences with aspect. The notion of Event Structure will be used to give an explanation for different phenomena in this domain. The analysis of these phenomena gives independent evidence to back up chapter two's analysis of Event Structure. Chapter 9 is devoted to the French reflexive. A tentative semantic analysis of this construction is proposed along the lines of Event Structure.

[1]

A possible semantic description of indirect object NPs, prepositional object NPs etc. using Event Structure can follow the proposals outlined in studies on the semantics of case morphemes such as Wüllner (1835), Hjelmslev (1935), Jakobson (1936) etc. It needs to be mentioned, however, that it is not self-evident that the notions developed in these studies are directly applicable to Event Structure, as they were not developed with this aspectual notion in mind. Neither is it self-evident that NPs other than the subject and the direct object NP can be defined using Event Structure. It may be that these two NPs are the only ones that figure in this conceptual structure. This view is upheld by tense interpretations of sentences containing a certain type of adverb: these interpretations depend on the presence or absence of these NPs rather than other NPs, such as the indirect object NP. This will be shown in chapter 8.

Although Event Structure only covers the semantics of the subject and the direct object noun phrase, this notion ties in with analyses of case morphemes presented in the above studies. Event Structure, as we will see in chapter 2, is defined in spatial terms. The semantic analyses of Wüllner (1835), Hjelmslev (1935) and Jakobson (1936) are all localist analyses: they make use of spatial terms to define the semantics of different case markings or of different argument NPs in non-case marking languages. The crucial primitive in Hjelmslev (1935) is directionality. Therefore, it is very well conceivable that the aspectual semantics developed in this thesis only represents a part of a localist system that

covers more than the subject and the direct object NP.

[2]

This issue is comparable to the assumption made under thematic or case role approaches. Here it is assumed that the patient-role is always assigned to the direct object NP and the agent-role to the subject NP. However, there is no theory from which it follows that a particular role can only be assigned to a particular NP.

Chapter II

EVENT STRUCTURE

2.1 Introduction

Questions of event and state semantics have been discussed within the linguistic tradition in Vendler (1967) and other work.[1] Vendler distinguishes four verb classes. One contains stative verbs and three contain nonstative verbs. States are not processes going on in time, in contrast to the nonstative activities. For instance, in English, states do not allow the progressive form. The stative sentences in (1) are examples of this phenomenon. The sentences given in this discussion are mainly from Vendler (1967).

(1)*a I am knowing the answer

*b I am having the car

Activities do allow the progressive form and can be characterized as processes going on in time. Two examples of these verbs are given in (2).

(2) a He was running

b He was pushing the car

Except for activities, Vendler distinguishes two more nonstative verb classes: accomplishments and achievements. Activities are contrasted with accomplishments as follows. When an activity, like the activity of drawing in (3a) is interrupted, it is still true that one has done this

activity or "has drawn" as in our example: When the accomplishment of drawing a circle is interrupted, it cannot be said that one has drawn a circle.

(3) a He was drawing

b He drew a circle

Accomplishments have a set terminal point: the circle in (3b); activities have not. Accomplishments, for that reason, "take" X amount of time. Activities, however, "last" X amount of time.

(4) a It took him twenty minutes to draw the circle

b He was drawing for half an hour

The sentences in (5) are ungrammatical. The accomplishment in (5a) cannot be combined with the adverb for half an hour; the activity in (5b) cannot take time.

(5)*a He drew the circle for twenty minutes

*b It took him twenty minutes to draw

Achievements constitute the third class of nonstative verbs in Vendler's classification. Achievements, in contrast to states and activities, cannot last for a certain period of time. One can hate a person for a certain stretch of time (6a) -hate is a state- but one cannot reach the top of a mountain (6b) during a stretch of time -reaching is an achievement-.

(6) a He hated her for the rest of the summer

*b He reached the top for ten minutes

Achievements and accomplishments have different implications in the context of the verb take, as shown in (7).

(7) a It took him 10 minutes to write the letter

b It took him 10 minutes to reach the top

(7a) implies that writing the letter lasted ten minutes. In contrast, (7b) does not imply that the "reaching of the top" lasted the full ten minutes. Achievements like states can be distinguished from the other two verb types in that they do not allow continuous tenses, as demonstrated in (8).

(8)*He was reaching the top

In Dowty (1979), a more elaborate study of Vendler's four verb classes is given. Dowty's division largely follows Vendler's proposals, but more tests are given to distinguish them. I will make use of some of these tests in the chapters that follow this one. The state-event distinction is of main concern to this chapter and I will focus on Dowty's proposals with respect to this issue. Dowty uses the progressive form, like Vendler, as one of the tools to distinguish states from activities. In addition to this, four other tests are given to distinguish states from activities. These tests are taken from Lakoff (1965) and they all imply that states are not "done" but activities are. This becomes clear in the sentences in (9). One cannot force somebody to be in a state, as in (9a) and (9b). One cannot be in a state on purpose (9c) and one cannot "do" or act a state (9d). The examples are from Dowty (1979). I will show in chapter 3, section 4, that these tests distinguish activity verbs from other verbs rather than states from events, if we follow the definitions for these notions given in this thesis.

(9)*a John forced Harry to know the answer

*b Know the answer

*c John deliberately knew the answer

*d What John did was know the answer

Activities can occur in the contexts in (9). One can be forced to run, as in (10a) and (10b); one can run in a certain way (10c) and one can "do" the running.

(10) a John forced Harry to run

b Run!

c John ran carefully.

d What John did was run

An overview of the four verb classes discussed so far is given in (11), which is from Dowty (1979) (p54). The activities, the accomplishments and the achievements are the events under my approach.

(11) STATES	ACTIVITIES
know	run
believe	walk
have	swim
desire	push a cart
love	drive a car
ACCOMPLISHMENTS	ACHIEVEMENTS
paint a picture	recognize
make a chair	spot
deliver a sermon	find
draw a circle	lose
push a cart	reach
recover from an illness	die

The four verb classes in (11) are the four classes that will be distinguished in this thesis, although at times individual verbs may be

classified differently. In chapter 7, I will consider these classes from a different point of view using the semantic notion of involvement rather than the notions of time and aspect Vendler uses. The primitive of involvement is used in an interesting way: if we set aside the classification of some items, it leads to the same four verb classes. However, the state-event distinction will be defined along different semantic lines altogether and it is here that I diverge most from Vendler (1967) and subsequent work on this topic such as Smith (1983). One of the reasons for making this move will be discussed in the next section.

2.2 Stativity and the Progressive

In this section, I will give three reasons why the use of the progressive in distinguishing states from events is problematic. Before doing this, I will treat one more study on verbal aspect namely Smith (1983).

The progressive form constitutes in Smith (1983) as in Vendler (1967), one of the basic grammatical means to distinguish states from events. Smith shows, however, that the division between states and events is not as clear cut as Vendler assumes. Verbs that are basically stative under Smith's assumptions can occur in the progressive form in particular instances. States, it is argued, are viewed as events in this way. Thus this still means one can distinguish states from events by looking at whether a verb can occur in the progressive or not. Smith shows, for instance, that the stative verbs to know and to resemble in (12), can occur in the progressive form. Used this way one does not

"talk about stative situations, but situations that involve change over time" (p498).

(12) a John is knowing the answer more and more often
this semester

b Mary is ressembling her mother more and more

Smith defines events as involving a change of state. Achievements and accomplishments have natural endpoints; activities are homogeneous and can begin or end arbitrarily at any stage. Endpoint here refers both to the beginning and the end of an event. States are stable situations; they do not deal in change. States have first or last moments but they are not defined by endpoints.

Let us look closer at Vendler and Smith's state-event distinction. A problem arises from assuming that the progressive form indicates events alone. First of all, achievement verbs such as to see and to hear do not, in general, allow the progressive form.[2]

(13)*a He was hearing the fire-alarm

*b He was seeing the downtown area

We are bound to say that both verbs in (13) are stative. Vendler, as a matter of fact, says that these verbs have a mixed status: they are both state and achievement verbs. Seeing is an achievement, because one can see things as in (14), which implies the achievement of having spotted a person.

(14) At that moment I saw him

Seeing can also last a period of time and as such it is more like an activity or a state than an achievement.

(15) How long did you see the killer

Seeing, however, cannot be a process, since one cannot answer the question in (16a) with the answer in (16b).

(16) a What are you doing?

*b I am seeing X

Vendler concludes that seeing is not an action but at the same time a state and an achievement.

Mourelatos (1978) has criticized this analysis as counterintuitive. He points out that a question such as "what happened next?" can be answered by saying: "I saw him run". This question usually refers to the event status of verbs such as see rather than a state predication. In chapter 3, section 2, I will give another argument for the nonstative nature of perception verbs.

The second objection to the use of the progressive form in distinguishing states from events concerns the semantic definitions that go together with these notions. It is not always clear how these definitions tie in with the two classes of verbs that can be distinguished by using the progressive form. The verb to miss in sentence (17a) can only occur in the progressive form, as shown by the ungrammaticality of (17b).

(17) a This table is missing a leg

*b This table misses a leg

It is hard to see, however, how (17) can denote a process going on in time in Vendler's terms. It is equally difficult to use Smith's definition and describe (17) as dealing with a change of state. (17a) could simply describe a table that was badly made. This would mean that no change of state to the legs has ever taken place. Similar examples like

(17) are given in (18)-(20). In all three cases, there is no process going on in time and no change of state. As such, these sentences show that the semantic definitions given for states and events sometimes cannot predict when a progressive form occurs.

(18) a This problem is waiting for a solution

b This problem waits for a solution

(19) a The box was sitting on the table

b The box sits on the table

(20) a The picture is hanging on the wall

b The picture hangs on the wall

Note that (19b) and (20b) have a habitual reading. The pure stative reading of (19a) and (20a) cannot be expressed by using the simple tense.

A third difficulty with the use of the progressive form: it makes the definition of the event-state distinction highly language specific. Languages that do not have a progressive form probably exhibit this semantic distinction in their grammar. This implies, of course, that other grammatical means have to be used to get insight into the state-event distinction in these languages. This problem was pointed out for Swedish in Platzack (1979). Dutch, like Swedish, lacks a progressive form. One way to express continuity in Dutch is to use auxiliary verbs like zitten 'sit', liggen 'lie' and staan 'stand' followed by an infinitival, as shown in (21). The use of this construction is not obligatory. Usage of the main verb alone can express continuity as well.

(21) a Hij zit te lezen-

he sits to read

'He is reading'

b Hij staat te liegen

he stands to lie.

'He is lying'

The mapping between this construction in Dutch and the progressive form in English is far from complete as becomes clear in (22) and (23). The progressive form in the a-sentences cannot be represented by a zitten te, liggen te etc.-construction in Dutch, as shown in the b-sentences.

(22) a The plane was flying to New York

*b Het vliegtuig zat naar New York te vliegen

the plane sat to New York to fly

(23) a He was having a headache

*b Hij zat hoofdpijn te hebben

he sat headache to have

The above means that if we want to be able to distinguish states from events on a cross-linguistic basis, this cannot be done by using constructions like the one in (21) in Dutch. On the other hand this also means that the progressive form in English is not necessarily symptomatic for this distinction.

Concluding this section, we can say that sentences that denote states sometimes take the progressive form like to miss in (17a). Sentences that denote events sometimes do not allow the progressive form, such as perception verbs or verbs of emotion, as in (13). The definitions given for state and event by Smith and Vendler do not always seem to tie

in with this phenomenon. This means that matching the progressive and the state-event distinction is not as clear cut as is generally assumed.

I will make the state-event distinction using Vendler's distinction between facts and events (Vendler (1967)), rather than the language specific criterion of the progressive and accompanying semantic definitions. In Vendler (1967), chapter 5, it is stated that events take place but facts do not. Facts are about the world, but they are not in the world. An example of a fact is given in (24).

- (24) It is a fact that for many years Africa was
dominated by European powers.

The semantic definition of facts can be carried over to states. States, in contrast to events, do not take place in reality. States, as will be argued in chapter 3, only imply the predication of a property, which is expressed in the predicate, over the subject NP. Selection restrictions imposed on the occurrence of certain adverbs in stative sentences will be used to prove these ideas. The advantage of this way of analyzing states and events is that it is language-independent. In addition, it ties in with certain language-specific grammatical phenomena, which is not the case with the other analyses. These phenomena are the phenomena studied throughout this thesis.

2.3 Event Structure

In Smith (1983), events are analyzed as having an initial endpoint and a final endpoint. This definition is based on a definition given in Bennett and Partee (1972).

'Suppose (a) is true at interval I: (a) John eats the fish. The interval of John's eating the fish is to be regarded as having occurred during interval I. If I has an initial point, then the event started at that point. If I has a final point then the event stopped at that point'.

States do not have endpoints but one can only speak of the first and last moment of a state, according to Smith.

In Bennett and Partee's definition of the event, the initial point and the final point are temporal notions and denote two points on a time axis. Events have been analyzed as temporal notions as well in Freed (1979) but in a slightly different way. Here events are analyzed in stages, instead of distinguishing a beginning and an endpoint. Under Freed's analysis, an event consists of an onset, a nucleus and a coda. The nucleus is further analyzed as consisting of an initial, middle and a final stage.

(25) onset nucleus. coda
 |-----|-----:-----:-----|-----|
 initial middle final

The onset of the event of sleeping is the process of falling asleep. The onset of sneezing is the time interval during which one starts to sneeze but does not actually sneeze yet. The nucleus is the time segment during which the event is in "progress". When one actually begins to sneeze the initial point of the nucleus has been reached. Following the initial stage more than one time segment may occur at which the event is in progress. Freed points out that events may be interrupted without losing their status as a unified event. Driving to work for instance, does not imply that one is driving all the time. This event

may be interrupted, when stopping for a traffic light or in other ways. This makes it necessary to distinguish more than one stage following the initial one. The final period of the nucleus is the last segment in this row of segments. The actual nature of the activity during this time segment is not different from the nature of it in the initial or the middle of the nucleus. The coda designates the final time segment of those events that are not completed after the end of the nucleus. Many events do not have endings which mark them as complete. Sentence (26a) only mentions the final segment of the nucleus. (26b) gives the final segment plus it mentions a terminal feature and (26c) gives a final segment and it mentions a terminal feature and the coda.

(26) a Tom and Lynn ended their conversation

b Tom and Lynn ended their conversation

with an argument

c Tom and Lynn finished their conversation

The analysis of events as time segments is useful to describe the semantics of so-called aspectualizers. These are verbs like begin, start, continue, finish, end etc. The main part of Freed's study is devoted to this issue.

When we want to describe single sentences as the temporal notions used by Freed, we run into some problems. The sentences in (27) denote a nuclear event in terms of Freed's system of analysis.

(27) a He is sleeping

b He is eating sugar

In Freed's system, not a lot more can be said about these sentences. Except, perhaps, that they mark incomplete events, as they only express

a nuclear activity and not the onset and the coda. When we want to get more insight into the nature of the phrasal categories contained in (27a) and (27b), it is not possible to use these temporal notions. The subject and the direct object NP, obviously, do not represent a time segment. This makes it impossible to formulate a correspondence rule in the sense of Jackendoff (1983) by using the temporal notions of (25) in order to explain subject and direct object semantics. A way to make it possible to link aspectual notions and deep structure syntactic positions is to interpret the event differently.

Partee and Bennett have argued that an event has two endpoints. These points in the definition given at the beginning of this section are points in time, namely the points in time at which the event starts and at which it ends. It is possible to interpret the endpoints of an event in a different way. Instead of considering endpoints as points in time, we can interpret them as objects in reality that are used to identify these endpoints. This implies that the temporal analysis of events is replaced by a an analysis using spatial notions. This move makes it possible to give a semantic interpretation of the subject and direct object NP using aspectual notions. We can say now that these NPs denote the materialized endpoints of an event in reality. The subject NP denotes the entity in which the beginning or origin of the event is located. The direct object NP denotes the entity that is the location of the termination of the event. Another way of saying this is that the entity denoted by the subject NP is used to identify the origin of the event. The entity denoted by the direct object NP is used to identify the termination of the event. To avoid confusion between the temporal

notions of beginning and termination and my own spatial notions, I will consider the subject NP as denoting the object of origin and the direct object NP as denoting the object of termination. Object here can be both a material entity or a mental entity like a thought. It is in the entity denoted by the subject NP that an event originates and in the entity denoted by the direct object NP that it comes to an end. This can be illustrated by the following data.

(28) a He heard the record completely

b He received only five letters

c He ate the pie

d He danced her dizzy

The subject NPs in (28) all denote the object in reality in which the events of hearing, receiving, eating and dancing originate. The hearing event in (28a) does not originate in the sounds produced by the record but in the hearing organs of the entity denoted by he. It is the functioning of these organs that brings a hearing event into existence. The presence of certain sounds, on the other hand, does not necessarily imply the existence of a hearing event. The event of receiving letters in (28b) does not originate either in the entities denoted by the direct object five letters. Nothing that relates to these letters as physical objects makes an event of receiving come into existence. When they are still on their way to their destination one cannot speak of a receiving event yet. When they have reached this destination, it is still necessary to interpret their presence in a certain location through this event. This interpretation happens in the head of the person indicated by the subject NP, or in the head of another person. Receiving is

interpreted this way as a mental relation that is established between a recipient and another entity, as is also the case with perception verbs. The analysis of the last two subject NPs in (28c) and (28d) as objects of origin is more straightforward. Both entities initiate the events of eating and of dancing. The direct object NPs in (28c) and (28d) denote the entities in which the events of eating and dancing come to an end. When the pie is finished the event of eating it is over. When the entity denoted by her is dizzy, the event of dancing has reached its end point.

We can interpret Smith's definition of events given earlier within our own approach. Events are said to include the changes of state that initiate or conclude them under Smith's definition. The change of state that initiates an event can be considered the change of state occurring in the object of origin. This object goes into action, as in (29a); or it starts perceiving a certain object, as in (29b). The causative (29c) shows, however, that this change of state definition cannot be used to generalize about all subjects. This sentence can still be true even if the entity denoted by the subject NP does not change. This entity may simply move around for reasons unrelated to the event of breaking and push his glasses, without noticing it, off a table, which results in their breaking when they fall on the floor. Still this entity is the origin of the event.

(29) a He was throwing balls

b He saw me yesterday in Woolworth's

c He broke his glasses

If we want to generalize about the subject NPs in (29) the best notion seems to be our own of origin of an event. Whether the entity denoted by the subject NP undergoes a change of state when it functions as the origin depends on the case. Events can be said to end in a change of state but there are exceptions. In (29b), for instance, we cannot speak of a change of state that finalizes an event. The entity denoted by the direct object NP me does not need to undergo a change of state at all in order to be seen. The balls in (29a) and the glasses in (29c) undergo a change of state. The balls end up in another place and the glasses get broken.

The above implies that events are delimited by at least one change of state, as in (29b). Only one endpoint need be this way.

The notions of object of origin and object of termination can be used to formalize an event structure as in (30).

(30) o-----o
 object of object of
 origin termination

(30) can be realized in English and Dutch in the three ways depicted in (31).

(31) a o-----
 object of
 origin

 b o-----o
 object of object of
 origin termination

 c o-----
 object of
 termination

(31a) is realized in intransitive and transitive nonaccomplishment constructions like (32) and (33). (31b) is a transitive accomplishment

like (34) and (31c) is an intransitive accomplishment, as in (35). The Dutch b-sentences are the counterparts of the English a-sentences.

(32) a He was working

b Hij werkte

(33) a He was drinking beer

b Hij dronk bier

(34) a He tore the newspaper

b Hij scheurde de krant

(35) a The vase fell

b De vaas viel

The subject NPs in (32), (33) and (34) represent the object of origin of the events of working, drinking and tearing. The direct object NP in (35) only represents the object of termination. The object NP in (33) can not stand for the object of termination, as it is a mass term. I will explain the reasons for this shortly. The subject NP in (35) represents the object of termination, as it is the broken vase that marks the outcome of the event.

The notions of origin and termination of an event are not new in the study of natural language semantics. What is new, is that these notions are related to objects in reality under my approach. Events are delimited by objects in space and not by the beginning and end of a time segment. An independent argument for this approach is that it explains why indefinite plurals and mass terms cannot function as an object of termination (Dowty (1979)). Under a temporal approach this would mean that events never have an endpoint when the direct object is a mass term or an indefinite plural; i.e. an accomplishment reading is excluded.

This phenomenon is demonstrated in (36) and (37): The test with the adverb in a period of time in the b-sentence shows that we are not dealing with an accomplishment.

(36) a He ate sugar

*b He ate sugar in an hour

(37) a He ate candies

*b He ate candies in an hour

- c. The temporal analysis of the event does not adequately explain this fact about mass terms and indefinite plurals. The difficulty here concerns the linkage between the temporal notion of point of termination or last point on a time axis and such physical notions as mass and plurality of objects. When we follow our own spatial approach, this phenomenon makes more sense. Events are delimited in terms of objects in reality. Different descriptions of entities in reality influence the possibility to interpret them as objects of termination. When we say that someone ate sugar (36a) or an indefinite number of candies (37a), nothing is expressed about the exact size of the quantity eaten. As such, these sentences do not indicate how to determine whether the event they express is finished. To do this, the entity denoted by the direct object must have undergone an identifiable change of state. A mass term and an indefinite plural, however, do not provide the information that makes it possible to identify this change of state in reality. This is so, because they do not denote entities that are delimited in space. Saying: "He ate the sugar" or "He ate the candies" makes it clear which quantity of sugar or candies were eaten. Now it can be determined now whether the particular quantity spoken about has disappeared or not. [3][4]

The notion of point of origin can be found in the notion of initiator of an event. This notion can be found in studies on the French reflexive. Burston (1979) works following Jakobson's idea that there is a one-to-one mapping between semantics and a grammatical category (or in Jakobson's terms between signans and signatum). The subject in the French reflexive is interpreted as both initiating, and suffering the effect of, the verbal process. Or, using thematic or case roles, as both an agent and a patient. He also states that the subject is the initial focus and the ultimate reference point of the verbal process. The latter two terms are from Jakobson and can be found, among others, in his study on case syncretism in Russian (Jakobson (1936)). Benveniste (1966) speaks of a process that is accomplished starting out from the subject and taking place outside of it. In case of certain verbs like naitre 'to be born' and dormir 'to sleep', the process is accomplished inside the subject. Stéfani (1971) states that the origin and the end of the event ('tension') coincide in the same position in the French reflexive, which is the subject NP.

The notion of object of origin is also implied by the notion of cause. A cause brings an event into existence and leads to the ultimate state such as the broken vase in (38).

(38) He broke the vase

Notice, however, that the cause of an event is not always the origin of it. In (39) the key can be said to cause the opening of the door, but the key does not turn itself to do this. An entity not mentioned in the sentence turns the key around and functions as the origin of the event.

(39) The key opens the door

Sentences like (39) will be treated in greater depth in chapter 3 where I will speak of subject selection. Our notion of object of origin implies both the notions of initiator and cause. It is even more general than this as it also covers subjects of perception verbs, as we saw in (29). We can conclude that although semantic notions similar to the notion of origin of an event are implied by other semantic notions in the literature, the notion itself has not been fully explored yet.

The termination of an event is implied by the notion of accomplishment, as present in Vendler's work. We have to do here with a temporal notion and our own notion of object of termination cannot be covered by it. Comrie (1977) calls accomplishments telic and nonaccomplishments atelic. Isacenko (1975) speaks of resultative and nonresultative aktionsart. Comrie gives the examples in (40) to illustrate the telic-atelic distinction.

(40) a He made a chair-

b He was making a chair

(40a) implies the point of termination. The chair needs to be finished in order for the sentence to be true. In (40b) this is not necessary. The chair may be left unfinished. This means that under Comrie's temporal approach to the event reference is also made to the object of termination. However, this object is not considered essential in defining event structure as we saw before. Under our own approach, the chair in (40a) is the object of termination. It is the finished state of this chair that is implied by the sentence. The chair is not the object of termination in (41b). It need not be finished and as such it cannot be used to identify the termination of the event in reality.

2.4 The Nature of the Event in Event Structure

Events, as analyzed in this thesis, are not delimited by points in time, but by points in space or by objects in reality. What we have not discussed yet is the nature of the event taking place between an object of origin and an object of termination. I will show that one cannot use Event Structure to generalize about the nature of this event. Many different types of events can be delimited by an object of origin and/or an object of termination.

Events with different aktionsarten can be delimited by an object of origin, an object of termination or by both at once. Here I am using the distinction made in Bache (1982) between aspect and aktionsart. Aspect covers notions like imperfectivity -nonaccomplishment- and perfectivity -accomplishment-. The term of aktionsart covers such notions as durativity, punctuality or iterativity. In our own model this semantic distinction is equivalent to the distinction between Event Structure and the nature of the event that occurs in a particular structure. Punctual and iterative events can be used to show this. The punctual event in (41a) is not delimited by an object of termination. The object of origin he is explicitly mentioned in this sentence. The punctual event in (41b) is delimited both by an object of origin and an object of termination. The event is over as soon as the entity denoted by the direct object goes to pieces.

(41) a He jumped once

b He smashed the vase to pieces

Only the object of termination is mentioned in sentence (42). This is the exploded house. To explode, like jump and smash in (41), denotes a punctual event.

(42) The house exploded

Iterative events, like punctual events, can be delimited by an object of origin, an object of termination or by both. This is shown in (43).

(43a) only contains an object of origin; (43b) contains an object of termination in addition to an object of origin and (43c) only contains an object of termination.

(43) a The ball bounced for ten seconds

b He bounced the ball into the room

c The ball bounced into the room

An event that has both an object of termination and of origin may be durative too. This is the case with the verb to eat in (44). The event of eating a pie may take some time.

(44) a He ate the pie

b It took him five minutes to eat the pie

When only the object of origin is present the event may have a certain duration as well

(45) He was eating

You can also say that (46) has duration. In (46) only the object of termination is expressed.

(46) The branch bend slowly

The duration of the events in (45) and (46) cannot be expressed by using adverbs like for five minutes, as both sentences contain an object of termination.

Platzack (1979) has argued for Swedish that duration is essential to sentences that contain, in our terms, an object of termination. She views sentences that contain such an object as processes leading up to a

final state. Platzack analyses events with the semantic features of a Jackendovian (1975) semantic description. What is important is how events with an object of termination are described.

Platzack distinguished the same four verb classes Vendler distinguishes but names three of them differently. These four categories are: states; unbounded processes (Vendler's activities), bounded processes (Vendler's accomplishments) and punctual events. Vendler calls punctual events achievements. Bounded processes are distinguished from punctual events using the semantic primitive of graduality. A bounded process is said to come about in a gradual way. A punctual event simply occurs - it is not the result of gradual development. (47a) can be distinguished from (47b) along these lines. The marital status in (47a) happens instantaneously rather than gradually. The thickness in (47b) results from gradual development.

(47) a Anna blev gift nar hon var pa Island

'Anna got married when she was in Iceland'

b Christer blev tjock nar han var pa Island

'Christer got fat when he was in Iceland'

Let us go back to our own system. Take an event that is delimited by both an object of origin and an object of termination. Platzack's notion of bounded process cannot characterize the event. As we saw in (41b), a punctual event may have an object of termination. In case of this punctual event, it is difficult to see that it is a process. Things happen virtually instantaneously in a punctual event: they do not happen over time as is the case in a process. Two more examples of punctual events with an object of termination (in Platzack's terms, "bounded events") are given in (48).

(48) a The mule kicked me out of the room

b He punched his opponent onto the ropes

Neither is it clear how you can use the notion of process to describe "bounded events" such as those in the two Dutch sentences of (49).

(49) a Hij drukte het glas kapot

He pushed the glass to pieces

'He crushed the glass until it broke'

b Hij sloeg de hond dood

'He beat the dog to death'

The punctuality of the event does not make it hard to interpret the sentences in (49) as a process. The resultant state does. You can break an object into smaller and smaller pieces. But in English the resultant state of drukken or crushing does not come about gradually but instantaneously. This is shown in (50). It is not possible to druk een glas 'crush a glass' a little bit to pieces.

(50)*Hij drukte het glas een beetje kapot

he pushed the glass a little bit to pieces

The resultant state in (49b) does not come about gradually either, as it is difficult to conceive of being dead just a little bit.

Platzack's notion of process can not characterize an event that has an object of termination. For instance, as in (48), punctual events may have an object of termination. These events are certainly not processes. We can put it more strongly and say that if an event has an object of origin, or an object of termination, or both, it does not mean that you can say something specific about its nature or about its aktionsart. The event can be punctual, iterative, durative or a process. The only

thing we could possibly say in Platzack's terms is that an event can be bounded or unbounded.

There is one important fact concerning Vendler's 1967, i.e. Platzack's categorisation of verbs that needs to be mentioned. The presence or absence of an object of termination tells nothing about an event's aktionsart. But it does tell us something about the category of verbs we are dealing with when we consider the presence of an object of termination. Activities, like accomplishments, can be delimited by an object of termination. This can be shown by inserting a resultative predicate in the sentence. The activity of dancing in (51a) is not delimited by an object of termination but in (51b) it is. The activity of (51a) has become an accomplishment in (51b).

(51) a He was dancing

b He danced himself silly

Of course states can neither be delimited by an object of termination, nor by an object of origin, as they do not take place in reality. As such, they cannot originate somewhere and come to an end in another location. The nature of states will be studied in the following chapters. I will not elaborate on this issue here. What is important here, is that achievements can never be delimited by an object of termination. Since we can consider achievements as events, we cannot say they did not happen in reality to explain this phenomenon. To win and to reach in (52) are examples of achievements. The addition of a resultative predicate to turn them into accomplishments always leads to ungrammaticality, which is shown in (53).

(52) a He has won many races

b He reached many mountain tops during his
expedition

(53)*a He has won himself sick with races

*b He reached himself silly with mountain tops
during that expedition

Another set of achievement verbs, the perception verbs, cannot occur as an accomplishment either. I agree with Mourelatos (1978) that these verbs express events though they can not occur in the progressive form in English in many instances. See for these problems the discussion in sections 2.2. To hear and to see in (54) cannot be followed by a resultative predicate, as shown in (55).

(54) a He saw many paintings in New York

b He heard many records at her place

(55)*a He saw himself sick with paintings in New
York

*b He heard himself silly with records at her
place

The constructions in (53) and (55) are examples of only one instance of resultative constructions. As well particles and directional PPs express the result of an event. They also denote the state that makes the entity denoted by the direct object an object of termination. This means that we will not find achievement verbs with particles or directional PPs either, if the above is correct. These verbs, however, may occur with a particle but then, interestingly, their meaning changes from an achievement into an activity that is, in addition, an accomplishment. Two examples of this phenomenon are given in (56).

(56) a He saw me out

b He heard me out

Neither sentence in (56) refers to an achievement. But they denote the activity of the entity denoted by the subject NP. For instance, the subject he in (56a) is not just perceiving something -it is acting at the same time. Yet (56a) refers to the perception alone.

This means that, though aktionsarten cannot reveal much about the nature of the event in Event Structure, it can help us to predict the category of verbs appearing in an event structure. Achievements cannot have an object of termination. Reasons for this behaviour of achievement verbs will be given in chapter 7 on involvement. I will show in that chapter why Event Structure is only indirectly related to this phenomenon.

The notion of involvement will be used as well to describe the semantics of the direct object in nonaccomplishment constructions. In our terms, this is the direct object that does not denote an object of termination. (This is the case in the Dutch sentences in (58).)

(57) a Hij dronk bier

'He drank beer'

b Hij keek televisie

'He watched television'

The direct objects in (57) still play a role in Event Structure, which can be seen when we add the particle door to the sentences. This particle tells us that an event continues. A direct object is impossible when it is present in the VP. This is shown in (58).

(58)*a Hij dronk bier door

he drank beer through

*b Hij keek televisie door

he watched television through

It does not matter whether the direct object is definite as in (59), and may function as an object of termination, or not as in (58).

(59)*a Hij dronk het glas bier door

he drank the glass of beer through

*b Hij keek het programma door

he watched the program through

Without the direct object NP, the presence of this particle does not lead to ungrammaticality.[5]

(60).a Hij dronk door van het bier

he drank through of the beer

'He continued drinking the beer'

b Hij keek door naar het programma

he watched through at the program

* 'He continued watching the program

The explanation of this phenomenon may be found in the following. We go back to Jakobson (1936). He says that that the direct object is the ultimate reference point of a verbal process. In our terms, it is the object in physical space that is the ultimate reference point of an event. This can be the object of termination, as in accomplishment constructions. But this does not need to be so, as, for example, in nonaccomplishment contexts. The particle door means that an event continues but the ultimate reference point has not been reached. The direct

object NP, rather than a PP, denotes the ultimate reference point. The presence of a direct object in a sentence implies that the ultimate reference point has been reached. And so sentences with the particle door are grammatical only when the object of the event is absent, or if it is expressed by a prepositional phrase as in (60).

[1]

Dowty (1979) discusses the literature of verb classification in detail.

[2]

These verbs can occur in the progressive form but then a change over time is implied in the visibility or the audibility of the object seen or heard.

(a) He was already seeing things better than before

(b) He was already hearing things better than
before

Yet if you define an event as a change of state, you may rightly consider perception verbs stative: (a) and (b) are exceptions. I will, however, not use this definition because in my approach, events need not imply a change of state.

[3]

Hoepelman (1981), page 113-117, gives a different explanation why mass terms can not occur in accomplishment constructions or, using our own terms, as an object of termination. When "John drinks water", it means that "John drinks a certain subpart of all the water there is, and moreover, for all the subparts of this subpart, that he drinks them as well." Hoepelman suspects that the reason for the ungrammaticality of (a) can be explained along these lines.

(a)*John drank water in an hour

(a) is ungrammatical, because if (a) is true "then it is true that John drank a subpart of all the water in the world in an hour, but for all subparts of this subpart that he drank them in one hour".

[4]

The connection between mass terms, indefinite plurals and accomplishments can also be found back in the following data, which were suggested to me by Koldo Sainz. Nonaccomplishments can occur with the quantifier phrase a lot (a); accomplishments cannot (b).

(a) He walked a lot

(b)*He arrived a lot

In addition, the quantifier phrase a lot can only quantify over a mass term (c) or an indefinite plural (d) but not over a definite NP (e).

(c) a lot of sugar

(d) a lot of logs

(e)*a lot of log

The spatial approach to the event makes it possible to generate a single explanation for these two sets of data. A nonaccomplishment can occur with the quantifier phrase a lot, because it is not delimited in space, i.e. its object of termination is left unspecified. An accomplishment cannot occur with this QP, because it is delimited in space by its object of termination. Mass nouns and indefinite plurals can occur with a lot, because they are not delimited in space, i.e. the exact size of the entity they denote is not specified. The NP log cannot occur with a lot, because it denotes an entity with fixed contours, i.e. an entity that is delimited in space. The presupposition here is that quantifier phrases like a lot can only quantify over entities, i.e. objects, events, that cannot be delimited in space.

[5]

English exhibits comparable phenomena but in a far less productive

way. The particle on can be considered the counterpart of door in Dutch. The verb to drink can occur with this particle but only if it is intransitive as in (a). Both a definite (b) and an indefinite direct object (c) are excluded in this environment.

(a) He drank on and on

(b)*He drank beer on and on

(c)*He drank the glass of beer on and on

Chapter III

THE SEMANTICS OF THE SUBJECT

3.1 Introduction

Chapter 2 presents the notion of Event Structure, which can explain the semantics of the deep structure subject in languages like English and Dutch. The subject NP, under our approach, marks the object of origin of an event. The interesting aspect of using the notion of Event Structure to explain subject semantics is that its relevance for the grammar of English and Dutch can be established on independent grounds. We will see in the chapters that follow how Event Structure predicts the derived status of the subject of certain verbs, the possibilities of passivization and other phenomena. As such, my approach is different from the case role treatment of subject semantics proposed in Fillmore (1968). Here it is hard to find an independent motivation in other domains of the grammar for the semantic notions used for the description of the subject and of other constituents. For instance, a process like er-affixation that turns a verb root into a noun can be described as in (1) by using thematic roles or, in Fillmore's terms, case roles. But using case roles to describe this phenomenon semantically does not allow us to make an interesting semantic generalization about the data in (1). These data are from Keyser and Roeper (1984): the er-affixed root may denote an agent, a theme (roughly the object of Fillmore), as well as an instrument.

(1) a	AGENT	b	THEME	c	INSTRUMENT
	hitter		sticker		weeder
	pusher		sleeper		trimmer
	fighter		sufferer		strainer

I will return to these data in chapter 4 section 5.

Case roles are used to describe the semantics of arguments and non-arguments. Fillmore's roles range from agent and object (patient or theme in later studies) to beneficiary and instrument. The roles are assigned to NPs as in (2), where the subject NP is the agent, the direct object NP the object and the NP the key the instrument.

- (2) John opened the door with a key
 agent object instrument

Later studies have taken up these roles, but often by modifying them one way or another. Studies that make use of them range from purely semantic ones like Gruber (1976), Jackendoff (1972), (1976) etc. to ones implying more complete models of grammar like Dik's (1978) Functional Grammar and Chomsky's (1981) Government and Binding framework. In the latter framework, case role notions represent the semantic content of so-called thematic roles. These roles are assigned by verbs and prepositions to their arguments or, compositionally by VPs to an external argument (i.e. the subject NP). Thematic roles also have a syntactic function in this framework: they determine the well-formedness of syntactic structures. To do this, no reference to their semantic content need be made (Styan (1983)). I will not touch upon the syntactic function of thematic roles in my thesis. Instead I will concentrate on their semantic content.

Fillmore's proposal to explain the case role semantics of the subject was treated in chapter 1. It is repeated in (3). [1]

(3)

Subject hierarchy: If there is an Agent, it becomes the subject; otherwise, if there is an Instrument, it becomes the subject; otherwise the subject is the object.

With this hierarchy, one can predict which case roles can be realized in subject position. When the agent role is absent from the case frame of the verb in (4a), the instrument will occur in subject position, as in (4c). When this entity is also absent the object will occur in subject position, as shown in (4d).

(4) a Open + [-----Object (Inst)(Agent)]

b John opened the door with a chisel

c The wind opened the door

d The door opened

The inadequacy of Fillmore's proposal becomes apparant from the following set of data from Dutch and English. The b-sentences are the Dutch counterparts of the English a-sentences.

(5) a This knife cuts the meat well

*b Dit mes snijdt het vlees goed

(6) a This knife cuts well

b Dit mes snijdt goed

(7)*a This spoon eats the soup well

*b Deze lepel eet de soep lekker

(8)*a This spoon eats well

b Deze lepel eet lekker

First of all, Fillmore's formulation of the Subject Selection Hierarchy in (3) wrongly predicts the grammaticality of the English sentence (7a), as we have already seen in chapter 1. The instrument is rightly selected over the object and the agent is absent. Secondly, it is hard to see how this hierarchy can explain the erratic differences that exist between Dutch and English. Even a simple description of the Dutch data alone leads to complications. We can say that instruments are not selected as the subject in Dutch to explain (5b) and (7b), but then we exclude (6b) and (8b). A more specific description would be that instruments are not selected as the subject of the sentence when a patient (or object in Fillmore's terms) is present. Here, however, we are doing nothing more than recapitulating the data in the form of a rule-like description. The explanatory value of this type of approach is doubtful. What is more explanatory is to approach the minimal sentence pairs in (5)-(8) from a wider perspective than individual case roles can provide us with. It is exactly this line of thinking that I will explore in this chapter.

As said before, I will use the notion of Event Structure to explain the data in (5)-(8). Unfortunately, when we use Event Structure, as formulated in chapter 2, sentences (5)-(8) ~~still~~ remain a mystery. When it is said that the subject NP denotes the object of origin of an event, all ungrammatical, but also all grammatical cases are excluded. The knife and het mes in (5) and (6) are not the object of origin of the event of cutting, as it is the person that actually cuts that initiates the event. Nor are spoon and the lepel in (7) and (8) the object of origin of the event of eating. By using Event Structure (7a), (7b) and (8a) will be excluded, but also the grammatical (8b).

In this chapter, I will show that the situation represented by (5)-(8) is far more complicated than the simple use of Event Structure suggests. Still the differences between the Dutch and English sentences can be explained with this semantic structure. Two things will be of crucial importance here. First, I will argue that the grammatical Dutch intransitive data are stative, which means that they are not describable in terms of the presence of an event structure but only in terms of the absence of it. Secondly, I will show that the nature of the English subject NP is different from the nature of the Dutch one. The English subject NP does not denote the object of origin but the actualizer of the event. This notion includes the notion of object of origin, but also a large number of additional cases like the subjects in (5a) and (6a), but not the one in (7a).

3.2 Intransitive Constructions

Dutch allows a subject NP denoting an instrument more freely in intransitive constructions than English. The relevant data are repeated in (9) and (10). the b-sentence is the Dutch counterpart of the English a-sentence.

(9) a This knife cuts well

b Dit mes snijdt goed

(10)*a This spoon eats well

b Deze lepel eet lekker

The grammaticality judgements of the English sentences can be explained clearly if (9a) and (10a) are considered the intransitives of their transitive counterparts. The reason (11a) is grammatical but not (11b),

also accounts for the grammaticality of (9a) and the ungrammaticality of (10a). I will show in section 3 why (11a) is grammatical but not (11b).

(11) a This knife cuts the meat well

*b This spoon eats the soup well

The grammaticality judgements of the Dutch sentences remain a mystery under such an approach as their transitive counterparts in (12) are ungrammatical.

(12)*a Dit mes snijdt het vlees goed

this knife cuts the meat well.

*b Deze lepel eet de soep lekker

this spoon eats the soup well

The Dutch sentences (9b) and (10b) like the English one in (9a) pose a problem if one assumes that the subject NP marks the object of origin of an event. It is hard to maintain that an instrument is the origin of an event. To do this one would have to say that the instrument has some self-propelling properties that make it possible for it to come into action by itself.

To solve this problem, we need look at two different types of intransitive constructions in Dutch and English. The b-sentence is again the Dutch equivalent of the English a-sentence.

(13) a He is sleeping

b Hij slaapt

(14) a This dog stinks

b Deze hond stinkt

The semantic relation between the subject and the predicate in (13) is different from the one in (14). In (13), the entity denoted by the

subject NP is involved in the event expressed in the sentence as its body performs the function of sleeping. In (14), it is not. Only a property of the dog is given in (14). How the smell came about and in which way the dog is actively involved in creating the smell is not expressed. The smell may not even be his own. This can be the case after the dog has been rolling around in a mud pool and carries home the smell of it. The difference between both type of verbs is their stativity. To sleep and slapen are nonstative; to stink and stinken are stative. In Vendler (1967) states are not processes going on in time, but events are. I will not use this definition for reasons outlined in chapter 2. However, for the time being this will do.

Dutch, in contrast to English, has a productive way of making intransitive nonstative verbs stative, as demonstrated in (15). The subject NP in (15a) denotes an instrument; the one in (15b) a location; the subject in (15c) refers to the circumstances under which the action takes place and finally (15d) contains an impersonal subject.[2]

(15) a Deze pen schrijft lekker

'This pen writes well'

b Dit papier schrijft niet lekker

this paper writes not nice

'This is bad paper to write on'

c Dat schrijft beter

that writes better

'It is more convenient to write this way'

d Het schrijft beter met het licht aan

it writes better with the light on

'It is more convenient to write with the

light on'

The relation between the subject and the verb phrase in statives is equivalent to a 'bare' subject-predicate relation. This means that the predicate expresses a property of the subject and the sentence does not refer to an event dealing with the entity named by the subject. is involved. If we assume the above, we can explain why, in Dutch, some NPs may not occur as the subject NP of a stative verb.

(16) a Dit papier schrijft prettig

this paper writes nice

'This is nice paper to write on'

??b Deze stoel schrijft niet lekker

this chair writes not nice

'This is not a nice chair to write in'

*c Deze kamer schrijft niet lekker

this room writes not nice

'This is not a nice room to write in'

There is an intrinsic semantic relation between an event of writing and its medium, the paper. As such, the paper in (16a) can have "writing" properties. This intrinsic relation does not exist between a chair and an event of writing, which explains the ungrammaticality of (16b). Though the body's position affects how you write, you can still write without a chair. A room does not have any connection to the event of writing. A room cannot have "writing" properties, as in (16c).

The relation between a verb and its subject in stative contexts is comparable to the one existing between a verb root and a noun in a nominal compound.

(17) a schrijfpapier

'writing paper'

b schrijftafel

'writing table'

The mapping between nominal compounds and statives is far from complete in that not all statives have a nominal counterpart or vice versa. However, (17) can still serve our purposes. The root schrijf and the noun papier are related to each other semantically because paper is an intrinsic aspect of the event of writing. The same can be said of (17b). The table, a support having a flat surface, is also an essential aspect of this event. Thus, to be grammatical, a compound needs this semantic connection between its subparts and nothing more. The same goes for stative constructions. For the sentences in (15) to be grammatical, a stative verb's subject NP need refer to one essential aspect of the writing event only.

When (8b) and (9b), which are repeated in (18) and (19), are considered stative, they do not constitute a counterexample to the idea that the Dutch subject denotes an object of origin. States, in contrast to events, are not delimited by an object of origin or an object of termination, as they do not take place in reality. The same may be true for English: (18a) is stative. It does not contradict the idea that the English subject NP -as in Dutch- indicates the object of origin. Then we have to assume as well that the transitive counterpart of (8a), given in (20), is stative.

(18) (8) a This knife cuts well

b Dit mes snijdt goed

(19) (9) *a This spoon eats well

b Deze lepel eet lekker

(20) This knife cuts the meat well

The above, however, does not explain why (19a) is ungrammatical in English, while (19b) is not in Dutch. I will solve this problem in the next few paragraphs and come to very different conclusions concerning the aspectual nature of (18a) and (19a).

English has a construction that on the surface looks like a Dutch intransitive stative. This construction is normally referred to as the middle or mediopassive.[3] Some examples of this construction are given in (21).

(21) a This orange peels easily

b This sweater irons easily

c This fabric washes easily

In (21), the verbs have a subject that occurs as the direct object in nonstative transitive constructions as is demonstrated in (22).

(22) a He was peeling the orange

b He ironed the sweater

c He washed that fabric

Dutch statives may also have patient-like or object-like subjects. This is demonstrated in (23). Sentences (24a) and (24b) are the nonstative transitive counterparts of the sentences in (23).

(23) a Deze bal gooit niet lekker

this ball throws not nice

'This is not a good ball to throw'

b Deze biefstuk eet niet lekker

this steak eats not nice

'This is not an easy steak to eat'

(24) a Hij gooide de bal

'He threw the ball'

b Hij at een biefstuk

'He was eating a steak'

There are three ways in which the Dutch stative and the English middle data are different.

First, the Dutch data in (23) are part of a larger set of data; namely the stative data, presented earlier in this section. Not only patients (i.e. objects), but also instruments, locations and circumstances may be denoted by the subject NP of statives. This is not the case in English, as most of the Dutch statives do not have a syntactically equivalent counterpart in English. In addition, if they do have a

counterpart, it has a different semantic nature, as is shown in the following two points.

Secondly, the Dutch data are stative: the Dutch constructions do not denote an event that takes place in reality. The proof: you can insert certain adverbs in them. The English middle data, in contrast to the Dutch statives, admit adverbs like with no effort or with no trouble. Nonstative verbs allow such adverbs in general, as shown in (25b) and (25c), but stative verbs do not, as shown in (25d). The middle in (25a) allows this type of adverb to occur with it. Nonstative verbs allow such adverbs in general, as shown in (25b) and (25c), but stative verbs do not, as shown in (25d). [4]

(25) a This teflon frying pan cleans without any effort

b He forgot his glasses, but he was reading

without much difficulty

c The vases broke without any effort

*d The dog smelled bad without any effort

The apparent Dutch equivalent (26a) of the English middle does not allow this type of adverb. As in English, this is the case for stative verbs in general -stinken 'stink' in (26b) is an example. But this is not true for the nonstative verbs in (26c) and (26d).

(26)*a Deze bal gooit zonder enige inspanning lekker

this ball throws without any effort nice

*b Deze hond stinkt zonder enige inspanning

this dog stinks without any effort

verschrikkelijk

terrible

c Hij zat zonder enige inspanning in de schemering

te lezen

'He was reading without any effort in the dusk'

d Hij viel zonder enige inspanning op zijn achterste

'He fell without any effort on his behind'

You can explain the data in (26) if you assume that adverbs such as without any effort refer to the effort needed to keep an event going.

The same is true for Dutch counterparts of these adverbs. This effort need not come from the entity denoted by the subject NP. For instance in (26d) it is presupposed that a person not mentioned in the sentence brings about the event of falling. A stative construction that exhibits the predication of a property over the subject NP does not allow such an adverb. Statives do not take place. As such, it is ungrammatical to imply that a person took part in it, or was active during the development of it.

This test can also be used to show the nonstative nature of the middles in (21). The adverb without any trouble can occur in each of these constructions, as shown in (27). The interpretation of the sentences in (27) is that the peeling (27a), the ironing (27b) and the washing (27c) can be performed without any problems.

- (27) a This orange peels without any trouble
 b This sweater irons without any trouble
 c This fabric washes without any trouble

The apparent Dutch counterparts in (28) of the middle data in (27) do not allow this type of adverb. This means that these sentences cannot refer to an ongoing activity that is done without any trouble. This is indicative of the stative nature of the Dutch sentences. [5]

- (28)*a Deze sinaasappel pelt zonder enige moeite

'This orange peels without any trouble'

- *b Deze trui strijkt zonder enige moeite

'This sweater irons without any trouble'

- *c Deze stof wast zonder enige moeite

'This fabric washes without any trouble'

Note that this test also shows that recipient and perception verbs, Vendler's "achievements", occur in constructions expressing an event. This supports the comments made in chapter 2 on the state-event distinction. These verbs can occur with adverbs that denote the involvement of the entity denoted by the subject NP during the development of the event. The relevant English data and their Dutch counterparts are given in (29) and (30).

(29) a He saw the tower at the horizon without too
much effort

b Hij zag zonder veel inspanning de toren aan
de horizon

(30) a He always receives letters from abroad with
a lot of pleasure.

b Hij ontvangt altijd met veel plezier brieven
uit het buitenland.

The third difference between the English middle and the Dutch stative concerns the semantic relation between the subject NP and the verb phrase. It is this difference that explains the grammaticality judgments in (31). The English equivalent of the Dutch sentence is ungrammatical.

(31) a Deze bal gooit niet lekker

*b This ball does not throw easily

The ball in (31a) represents an intrinsic aspect of an event of throwing. "Throwing"-properties of this entity are commented upon in (31a). A stative construction is grammatical only if an entity can bear the properties expressed in the predicate. But this does not explain the grammaticality of (31b) in English. If we assume, however, that the English middle is nonstative, as was argued above, (31b) must be ungrammatical for the same reasons that nonstative sentences may be ungrammatical in general. That this is indeed the case has been shown in Oosten (1977) and O'Grady (1980) where a semantic description of the middle is given that can be used easily for other nonstative constructions.

Oosten states that "properties of the patient-subject are asserted to be responsible for the occurrence of the predicate" and that "properties of the patient subject bear responsibility for the action of the predicate in a way that properties of the agent subject normally do" (page 469). Because of this similarity to agentive sentences, she says that there is reason to believe that middle sentences are active sentences. O'Grady formulates the semantics of the middle as follows: "Properties inherent in the referent of the nonagentive grammatical subject somehow facilitate or hinder the actualization of the event expressed by the verb" (page 68). The above remarks can be exemplified by the examples in (32), which are from Oosten (1977).

(32) a The book is selling like hotcakes

*b The book is buying like it was going out of style

Buying, according to Oosten, implies that properties of the purchaser are responsible; selling is not limited to the responsibility of the one who sells: selling can take place without a sales person. For instance, a book may sit on a table in a bookstore. The purchaser simply picks up a copy and pays at the cash register. Buying cannot take place without an entity that functions as the buyer. This may be a person but also an amount of money, as in the English (33).

(33) Fifty dollars buys a second hand car

The ungrammaticality of (31b) can be explained as follows. According to Oosten, a ball is not responsible for the action of the predicate, throwing. The entity that does the throwing is totally responsible for this action. Note that properties of the ball may hinder or facilitate the actualization of the event. For instance, a heavy ball is more dif-

difficult to throw than a light one. Thus O'Grady's definition does not help us to understand the semantic properties of the patient-subject when it refers to the facilitating or hindering effects of the entity the subject NP denotes. A definition based on O'Grady's and Oosten's ideas is more helpful in this matter.

The description of the semantics of the middle is applicable to other nonstative verbs if we replace the term "action" in Oosten's definition by "event". We then include not only action verbs but also perception and causative verbs. Properties of the subject bear responsibility for the event expressed in the predicate. If we include O'Grady's idea, properties of the subject help actualize the event. Thus you have the definition below:

(34) The Semantics of the Subject NP in English

The entity denoted by the subject NP

helps actualizing the event

(34) brings us back to Event Structure. The subject in Event Structure is the object of origin, as in (35).

(35) a He is sleeping

b He is working

It is easy to see that the objects of origin in (35) help actualizing the event. As a matter of fact, the objects of origin in (35) are the only actualizers of the event. Not all events, however, are actualized completely by the object of origin. Sometimes properties of other entities that occur in an event are important for the actualization of it. The actualization of an event of cleaning may very well be influenced by the object that is cleaned. Properties of this object may

influence the cleaning of it in such a way that they "do" part of the cleaning themselves. This is not only true for the object that is cleaned (36a) but also for an instrument that is used to do the cleaning (36b). The object of origin is, of course, the person who does the cleaning. The actualization of an event of reading may depend on the material read. In Oosten properties of this material may be responsible for the action expressed in the predicate. The material read may be an important factor in the actualization of the event of reading (36c).

(36)*a This teflon frying pan cleans easily

b This sponge does not clean very well

c This speech reads easily

You often cannot predict whether another entity from the object of origin can play an important role in the actualization of an event. For instance, to eat hardly ever allows the middle, as is pointed out by Oosten. Only the example in (37b) is given; (37a) is ungrammatical.

(37)*a This steak eats easily

b Keep these pills away from the baby. They're powerful, but they eat like they were candy.

It should be noted that (37b) is not considered grammatical by all English speakers. (37a) can be explained when we analyze the event of eating as being actualized only by its object of origin, the eater. The object eaten does not contribute to the actualization of the event, although it may facilitate or hinder it. Nothing in the object eaten contributes to the different processes of the eating event. These are the chewing and the ingurgitation, all of which are initiated and done by the object of origin. A possible grammatical reading of (37b) can be

understood if it is said that the substance of the pills helps actualize the eating of them. In case of pills, this is easier to imagine than in the case of more substantial food products, as no chewing takes place when "eating" them, but only ingurgitation. It is this latter aspect of eating that may be partly actualized by properties of the object ingurgitated -properties such as size and taste-. A final example concerning the event of eating is given in (38). [6]

(33) This soup eats like a meal.

This sentence was used in a television add on CBC television in 1985. The add was intended to sell fish soup. The use of (38) in this context can be understood if we assume the makers of the add intended to say that the soup is so good it helps actualize the event of eating.

To conclude this section, these findings do not refute the argument that Event Structure is fundamental to understanding the semantics of the subject NP. Dutch counterexamples to this claim were analyzed as stative. English counterexamples led to the reformulation of subject semantics in English. The subject in this language does not denote the object of origin, but the object of actualization of an event. The latter notion includes all objects of origin and a set of entities that are very close to being an object of origin in that they help actualize an event.

3.3 Transitive Constructions

The range of NPs that may occur as the subject of transitive constructions is less restricted in English than it is in Dutch. English allows inanimate subjects in a larger number of environments than Dutch.

The Dutch counterparts of the English sentences in (39) and (40), taken from Fillmore (1977), are ungrammatical.

(39) a Fifty dollars will buy you a second-hand car

*b Vijftig dollar zal (je) een tweedehands auto kopen

(40) a The accident killed the woman

*b Het ongeluk doodde de vrouw

Fillmore states, basing himself on Röhdenburg (1970) among others, that English allows certain kinds of enabling or occasioning circumstances to be chosen as the subject, in contrast to German, the language studied by Röhdenburg. A similar statement can be made with respect to the difference between English and Dutch. The descriptive statement given by Fillmore is, however, quite vague and it does not cover all cases. For instance, what is the status of the postcard in (41a)? Is it an enabling or an occasioning circumstance, or is it more like a recipient-like entity? The Dutch equivalent of this sentence is ungrammatical.

A (41) a A postcard will get it for you

*b Een briefkaart zal het voor je krijgen

And how can (42a) be interpreted? Does the sentence mean that the ticket enables a person, who is not mentioned in the sentence, to win a certain amount of money or that the ticket causes the winning of an amount of money. And why couldn't it be possible that the ticket is the winner itself? Again the Dutch equivalent of the sentence is ungrammatical.

(42) a This lotto ticket can win 5,000

*b Dit lot kan 5.000 winnen

When we look at (39)-(42) by using Event Structure we do not get much farther either. The same goes for the sentences from section 1 that are repeated in (43) and (44).

(43) a This knife cuts the meat well

*b Dit mes snijdt het vlees goed

(44) *a This spoon eats the soup well

*b Deze lepel eet de soep lekker

The notion of object of origin does not make it possible to explain the semantics of the subject in (39)-(43). The object of origin of an event of buying in (34) is the buyer and not the money paid for the object bought. The object of origin of the event of killing in (40) is not the accident, as it does not come into existence by itself. The accident is brought about by other factors that can be considered the object of origin of the killing event. The object of origin of the event of getting something in (41) is the recipient. It is in this entity that the event originates, as we can say that this is the entity that indeed got something when an object has reached it. Similar things can be said about an event of winning something in (42). It is not the ticket that wins something but the owner of it. The owner functions as the object of origin of the event when winning money in a lottery is interpreted as a relation that is established between a winner and a prize. The lottery system in the minds of the participants, not the physical entity a prize is, that brings about the winning. Note that to win a prize is interpreted in the same way as to receive an object. This example was discussed in chapter 2. The object received does not bring into existence a receiving event, but only the relation that the receiver establishes

between himself and this object. Finally, similar things can be said about the knife in (41a). The knife does not cut by itself, but somebody uses it to cut something. This means that the knife is not the object of origin.

Again, as in the preceding section, we can take refuge in the notion of actualization. The subject NP of transitive constructions in English denotes the object of actualization of an event. The money in (39) is essential to an event of buying. The accident in (40) actualizes the event of killing and a postcard in (41) is essential in actualizing the event of getting something. The lotto ticket in (42) actualizes the event of winning and the knife in (43a) actualizes the event of cutting. The spoon in (43a) does not actualize the event of eating. It does not "do" anything that one could possibly call eating, but the knife "does" something that one can call cutting.

Dutch does not allow a subject NP that denotes an entity that only actualizes an event but is not the object of origin of it at the same time. This difference between English and Dutch is illustrated by the following interesting set of data.

(45)*a De steen brak het raam

b The stone broke the window

(46) a Het hete water brak het glas

b The hot water broke the glass

The Dutch equivalent of (45b) is the ungrammatical (45a). Again the entity denoted by the subject NP only actualizes the event and is not the origin of it. The stone is not propelling itself towards the window to break it. It has been put into motion by some external force, not its

own forces. The Dutch subject NP of nonstative sentences may only denote the object of origin which means that (45a) is excluded. (45b) is grammatical because the English subject is defined in a broader way as the object of actualization of an event. (46a) is grammatical in Dutch, because the hot water is the only cause for the breaking of the glass. It functions as the object of origin of the event of breaking. No external force is necessary for the heat of the water to break the glass. (46b) in English is grammatical because the entity denoted by the subject NP actualizes the event and, in this case, it is also the object of origin of it.

To close off this section, I give in (47) a systematic overview of the findings of this chapter so far.

(47)

DUTCH	ENGLISH
TRANSITIVE SUBJECTS	
<u>nonstative</u>	
object of origin	object of actualization
Hij brak de vaas	He broke the vase
*De steen brak de vaas	The stone broke the vase
Het hete water brak het glas	The hot water broke the glass
<u>stative</u>	
Hij heeft een auto	He has a car
II INTRANSITIVE SUBJECTS	
<u>nonstative</u>	
object of origin	object of actualization
Hij slaapt	He is sleeping
	This orange peels easily
<u>stative</u>	
Deze hond stinkt	This dog stinks
Deze sinaasappel pelt niet lekker ('This orange does not peel easily')	

3.4 General Consequences

So far we have seen that the semantic nature of the subject NP in English and Dutch can be explained by Event Structure. To do this I have separated stative from nonstative data, and I have redefined the English subject as that which denotes the object of actualization. This approach has some consequences which I will discuss in this section.

First, we need not make complex lexical derivations of transitive sentences having certain subjects, if we accept these ideas. One example of such a derivation is given in (48), taken from Marantz (1981). Marantz proposes to derive sentence (48a) from (48b). The details of this derivation need not concern us here.

(48) a Ten dollars buys this porcupine

b buy, V, 'buy' (bought, means)

[-PRED SR], [+transitive]

In Marantz system, the lexical entry in (48b) expresses that the means-NP ten dollars may occur as the subject since no other semantic role is assigned to it, because of the feature [-PRED SR]. This feature expresses the absence of semantic role assignment to subjects of verbs.

We can avoid the above type of derivation by considering Event Structure, rather than let ourselves be guided by the case role of the subject NP in (48a). This is a nice result, as derivations as in (48) are in general poorly motivated and ad hoc. The semantics of the subject NP in (48a) exceptional if we look at it from the perspective of case roles. It is a means NP and not an agent, causer, perceiver etc., which are often considered typical case roles for the subject NP. Note that no theory exists that predicts which ones are typical case roles for a

given argument position. Still the assumption underlying (48b) is that agents etc. are more typical subjects than NPs like fifty dollar. However, when we consider (48a) from the point of view of Event Structure, the semantics of the subject NP is nonexceptional. The entity denoted by the NP fifty dollars actualizes the event and, as such, it is semantically a regular subject of English.

The second consequence of my approach is a modification of the state-event distinction as can be found in the literature. The state-event distinction made in the literature is usually based on whether it is possible to use a verb in the progressive form or not. This is done in Vendler (1967) Smith (1983) and Keyser and Roeper (1984). I have argued in chapter 2 that this is not a well-motivated assumption. The definition given for states in section 2 of this chapter is more helpful in distinguishing states from events across languages, as the progressive form is typical for English only. Moreover, we will see that our definition ties in with a number of syntactic phenomena like unaccusativity (or ergativity) which will be treated in the following chapter and passive that is to be treated in chapter 5. The basic idea is that states involve the predication of a property, which is expressed in the VP, over a subject of predication, which is the subject NP in this case. In addition, states do not take place in reality like events do. This aspect of my definition of states is used in Vendler (1967) to distinguish facts from events rather than states from events. Facts are discussed in chapter 5, page 47 of Vendler (1967). Facts, in contrast to events, do not "occur, take place, begin, last and end." An example of a fact is given in (44).

(49) The collapse of the Germans is a fact

The third consequence of our semantic analysis concerns the middle or mediopassive in English. It has been assumed in many frameworks that the middle has a derived subject. See Bresnan (1982), Marantz (1981) and most recently Keyser and Roeper (1984). Our definition of state and event implies that the middle is nonstative. This outcome stands in sharp contrast to the assumption made in Keyser and Roeper (1984). I will devote the final part of this section to discussing their arguments for the stative nature of the middle. First of all, Keyser and Roeper argue that middles are often generic states. This becomes clear from the data in (50) given by the authors themselves.

- (50) a Bureaucrats bribe easily
- b The wall paints easily
- c Chickens kill easily
- d The floor waxes easily

The conclusion presented is that generics are necessarily state propositions that do not denote particular events in time. However, the fact that a sentence has a generic reading does not exclude it from exhibiting Event Structure and being stative (51) or nonstative according to this thesis and having an accomplishment (52) or a nonaccomplishment reading (53). As such, generic sentences are not stative when this notion is defined as in this thesis. Note that no definition is given for stativity by Keyser and Roeper.

(51) This carpet stinks of mud

(52) a People in North America work eight hours per day

 *b People in North America work in eight hours

(53) a A scratch heals in five days

 *b A scratch heals for five days

The grammaticality judgements in (52) and (53) are exactly the reflection of the judgements in nongeneric sentences. A nonaccomplishment can last a certain amount of time (52a), but it cannot take time to accomplish a nonaccomplishment (52b). An accomplishment can take time (53a) but it cannot last (53b).

Furthermore, one of the tests given by Keyser and Roeper to prove the stative nature of the middle is not as unambiguous as it seems to be. The a-sentences in (54)-(56) and the grammaticality judgements are from both authors; the b-sentences are mine and are much better. As such this test does not show that middles are stative. Supposedly, only nonstatives are allowed in the environment created by the time adverb. This assumption is also refuted by the fact that the same syntactic environment can be used with such typically stative verbs like to have in (56).

- (54)?a Yesterday, the mayor bribed easily, according
to the newspaper
- b Yesterday, the mayor still bribed easily
according to Peter, but today we did not manage
- (55)?a At yesterday's house party the kitchen wall
painted easily.
- b At yesterday's house party the kitchen wall
still painted easily but today it is much more
difficult to paint it.
- (56) Yesterday, the mayor still had two cars, but
today he only has one left

Another test used by Keyser and Roeper concerns imperative and vocative environments. These environments have also been used by Vendler to show stativity. The assumption is that constructions that express events, like the ergatives (or unaccusatives) in (57) may be used in the imperative or vocative mood. The supposedly stative verbs in (58) may not.

(57) a Sink, boat!

b Close, door!

c Bounce, ball!

(58)*a Wax, floor! (The floor waxes easily)

*b Translate, Greek! (Greek translates easily)

*c Kill, chicken! (Chicken kill easily)

However, many other verbs that can clearly occur in constructions expressing events, such as the ones containing achievement verbs in (59), cannot be used in the imperative or vocative mood, as shown in (60).

(59) a (29) He saw the tower at the horizon without
too much difficulty

b (30) He always receives letters from abroad
with a lot of pleasure

(60a) is grammatical, but then the verb means to visit, implying an activity rather than a perception alone.

(60)*a See Peter!

*b Receive the letter!

The ungrammaticality of (60) implies that the imperative test cannot be used to set off states from events unambiguously.

A final diagnostic tool Keyser and Roeper offer are perception verbs followed by a small clause. This clause is said to require an eventive or temporary state reading, as in (61).

(61) a I saw Mary leave

b I saw Mary naked

*c I saw Mary tall

*b I saw Mary 5'4" in height

Middle verbs cannot appear in this context.

(62)*a I saw bureaucrats bribe easily

*b I saw the floor wax easily

Recipient and perception verbs can only occur in this environment when the event described is visible. Thu (63b) is grammatical, but only if the perceiver sees someone who feels cold, and shows it by shivering. However, the perception verb in (63b) turns out to be a stative under Keyser and Roeper's approach, because it cannot occur in an imperative construction. Whether (63c) describes a visible or nonvisible event does not make a difference with respect to its ungrammaticality.

(63)*a I saw him hear the sonata

*b I saw him feel the cold

*c Feel the cold!

The test with the perception verb to see followed by a small clause does not separate states from nonstates, as is assumed by Keyser and Roeper, but it separates visible from nonvisible events and visible from nonvisible states. A complicating factor is that the visible states have to be nonpermanent as was already mentioned above. The tallness in (61c) is a permanent property. Yet if this property is nonpermanent, it is the

result of a distorted photograph or a trick mirror, (61c) seems all right when referring to a tall projection of Mary.

In conclusion, the tests given by both authors do not show unambiguously that the middle is stative. That the middle tends to have a generic reading does not change anything about this: generics may exhibit event structure and be stative, or not exhibit event structure and be nonstative given the definitions in this thesis.

It is interesting to observe here that the imperative test is also used in Lakoff (1965), page 121. Lakoff uses the imperative (64), the pseudo-cleft with do (60) and the progressive (66), to distinguish the states in the a-sentences from the events in the b-sentences.

(64)*a Know that Bill went there

b Look at the picture

(65)*a What I'm doing is knowing that Bill went there

b What I'm doing is looking at the picture

(66)*a I'm knowing that Bill went there

b I'm looking at the picture

In addition, Lakoff gives a test using certain manner adverbs. The state in (67a) does not; the event in (67b) does allow such an adverb (Lakoff (1965), page 156-159).

(67)*a Everyone knew cleverly that Bill was tall

b John sharpened knives cautiously

When looking at these tests, one wonders what Lakoff's notions of state and event mean. What the tests actually do is separate activities from nonactivities or "things" that can be done (65b) in a certain manner (67b); that can be forced on somebody (64b); and that can progress

(66b). In this context, it seems strange that the notion of event is used to denote activities, as if simply naming them activities is enough. Events include not only "activities" as defined in this thesis but perceptions and other achievements as well. This difference with Lakoff may be a purely terminological matter concerning the use of the notion of event. However, one thing that is implicit in these approaches is worth mentioning. This is the difference in emphasis of one or the other notion. Chapter 1 states that this thesis presents a semantic analysis that ties in with certain phenomena in the grammars of English and Dutch. This analysis gives a definition of the notion of event so that it can explain various grammatical phenomena. Activities are only one instance of events. My analysis of Dutch and English implies that the notion of activity is not a primitive that can explain the phenomena studied in this thesis. For instance, unaccusativity does not tie in with this semantic notion, as will be demonstrated in the following chapter. Lakoff's emphasis on the notion of activity or on events as activities suggests a different point of view about the relevance of this notion to English grammar. Lakoff's proposals do not distinguish between semantics that is mapped onto the grammatical system and semantics that is not (see chapter 1). In this context, one can also wonder how the tests Keyser and Roeper use tie in with phenomena in English grammar.

[1]

Another proposal has been made in Dik (1978) within the Functional Grammar framework. Dik proposes a semantic function hierarchy (page 76) to describe the possible semantics of the subject NP cross-linguistically. Scheme (a) reads as follows: It is most likely that a subject bears the agent-role; second most likely that it bears the goal-role etc.

(a) Subj: agent > goal > recipient > beneficiary >
instrument > location > time

Each individual language may have a different "cut-off" point on the hierarchy. For instance, Dutch is said to allow only agent and goal subject; but a language like Kalagan allows all the options provided by the hierarchy. In this chapter I will show that you do not need to use case or thematic roles as in (a) to explain the semantics of the subject in English and Dutch.

[2]

For a descriptive study of Dutch stativized intransitives Paardekooper (1983) and Vries (1910). Stative verbs in Dutch, and the middle in English (see below) are often accompanied by qualifying adjective. The presence of this adjective is not essential to the semantic nature of the respective constructions. Stativized verbs in Dutch can very well be used without such an adjective, as in (a). The English middle can also occur without an adjective, as shown in (b).

(a) Deze pen schrijft.

this pen writes

'This is an excellent pen'

(b) This book does not sell

The Dutch data given in this chapter and in others represent my own intuitions about the Standard Dutch spoken in the suburban area of Amsterdam. The English data are largely a reflexion of the English spoken in Ontario, unless a source has been mentioned. I do not exclude disagreement as to the grammaticality of some of the middle and stative sentences. One reason for this may be that different pragmatic factors play an important rôle here. It may be necessary to place sample sentences in a certain pragmatic context before one can estimate their grammaticality. This does not imply that stativity and the conditions on the subject of the middle are phenomena that have to be accounted for pragmatically. I shall argue that a stative construction predicates a property over an entity represented by the subject NP. This fact is purely semantic. The conditions on the subject of the middle verbs -I define this concept below- are semantic as well.

[3]

In Jespersen (1927) the construction is described as the activo-passive use of verbs. In later studies like Keyser and Roeper (1984) the term middle is most often used.

[4]

Adverbs like these form a subset of a larger class of manner adverbs. These adverbs show the involvement of the entity denoted by the subject NP in the event. They were used indiscriminately in Lakoff (1965) to distinguish states from events. Under Lakoff's approach, activities are events and nonactivities are states. The grammatical means to distinguish these two categories will be dis-

cussed at the end of section 4 of this chapter. The distinction made by Lakoff has surfaced in Perlmutter (1978) and in Keyser and Roeper (1984). They talk about is the semantic distinction between activities and nonactivities, but not the state-event distinction as it is defined in this thesis. This is the distinction between "something" that takes place; an event, and "something" that does not take place, a state. By using the notion of activity, a subset of the events under my definition is marked stative. These events are actually the events that are static since no change or changes of state seem to occur in a hearing-, seeing- or an owning-event. Activities imply a readily perceivable change of state.

[5]

The case of the adverb zonder enige moeite is ambiguous: is it a manner adverb or is it a speaker oriented adverb? It may occur in a Dutch stative when it has the interpretation of a speaker oriented adverb, as in (a) and (b).

(a) Dit boek verkoopt zonder enige moeite binnen
vijf dagen

'This book sells without any problems within
five days'

(b)?Deze sinaasappel pelt zonder enige ~~moeite~~ lekker

'This orange peels without any problems well'

(a) and (b) mean that it is the speaker's contention that the book will sell within five days and that the orange will peel well. They do not mean that the "selling" or "peeling" will take place without neither problems nor effort. I will discuss this ambiguity as well in chapter 5.

[6]

The semantic relation discussed in connection to (38) and other middles is the one between the subject NP and the main verb. I do not consider adverbs like easily or like a meal relevant to this relation. These adverbs cannot make virtually any verb middles.

(a)*This letter writes like a poem

(b)*This book buys like an ice cream

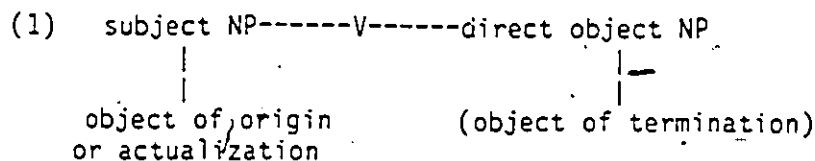
(a) and (b) are ungrammatical because of the relation between the subject NP and the verb. A letter cannot actualize a writing event and a book cannot actualize a buying event. The adverb does nothing to change this.

Chapter IV

UNACCUSATIVITY

4.1 Introduction

The mapping relation in (1) between the conceptual notion of Event Structure and Syntactic Structures, or, in particular, deep structure, predicts a number of linguistic phenomena. One of these phenomena is the semantics of the subject NP. As we saw in chapter 3, the Dutch subject denotes the object of origin of an event and the English subject the object of actualization. Another prediction concerns the derived status of the subject NP in certain intransitive constructions.



(1) predicts that the object of termination can only be realized as the direct object NP. This is the case in transitive constructions such as

(2): the object denoted by the direct object NP ends up in the state that resultative predicates up and dizzy express.

- (2) a He drank the beer up
 b He danced her dizzy

In intransitive constructions, the situation is different. When we encounter an intransitive construction expressing accomplishment, the object of termination is obviously denoted by the subject NP. In (3a),

the newspaper is the object of termination, as the end of the event is denoted by its torn state. In (3b), the final state is the collapsed car. The car, as such, is the object of termination.

(3) a The newspaper tore

b The car broke down

To maintain the correspondence exemplified in (1), we have to say that the subject NPs in (3) are derived and originate in direct object position. Then, the object of termination is realized as the the direct object in deep structure, as shown in (4). [1]

(4) a NP tore the newspaper

b NP broke the car down

In this chapter, I will show that the predictions the correspondence rule in (1) about the derived status of the subject NP in English and Dutch are justified. I will argue that other semantic reasons given in the literature to motivate the derived status of the subject NP in English and Dutch are ill-conceived.

It has been argued within the framework of Relational Grammar (Perlmutter (1978)) and within the Government and Binding framework (Burzio (1981)) that intransitive verbs fall out in two classes: a class containing verbs like to sleep and to work of which the subject is nonderived and a class containing verbs like to break and to sink that have a derived subject. The derivation of the subject in the latter class takes place through a so-called promotion rule within the Relational Grammar framework or through a movement rule that moves a NP from direct object position into subject position within the Government and Binding framework.

Arguments for this division of intransitive verbs are both of a semantic and a syntactic nature. Burzio shows that a number of syntactic phenomena in Italian and English can be accommodated in the grammar quite easily when the subject of certain verbs is considered to originate in direct object position. Perlmutter exploits the distinction between both verb classes to explain phenomena of impersonal passive in Dutch, among others. The semantic motivation for distinguishing these two verb classes remains rudimentary under Burzio's approach where it is based only on a subset of verbs that can have derived subjects. Burzio uses case roles such as the ones proposed in Fillmore (1968) as the base of his semantic remarks. Perlmutter gives a more complete semantic account of intransitive verbs having derived subjects. This account is, however, nothing more than a highly descriptive enumeration of different semantic classes of verbs. Again, case grammar is lurking somewhere, as the notion of agent or activity is thought to be typical for the characterization of nonderived subjects.

Following Perlmutter (1978), I will call intransitives with derived subjects "unaccusatives" and those that have nonderived subjects "unergative". First, I will discuss the syntactic and morphological motivation given for unaccusativity in English and Dutch. Then I will go into the semantic reasons given for this derivational process. After this I will treat resultative predicates. Usage of these predicates makes it possible to distinguish unambiguously between three, instead of Burzio's and Perlmutter's two, intransitive verb classes. And, finally, I will show that the derived status of the subject NP depends on the accomplishment reading of the constructions concerned, or, what I call in this thesis, Event Structure.

4.2 The Syntactic and Morphological Motivation for Unaccusativity

This section deals with syntactic and morphological considerations that have led to the hypothesis that certain intransitive verbs have derived subjects. First, I will discuss Burzio's (1981)⁴ proposals for English. Secondly, I will discuss Perlmutter's (1978) and Hoekstra's (1984) treatment of Dutch intransitive verbs.

Burzio uses basically three phenomena in English to argue for the derived status of certain intransitive verbs. These are: verbal existential sentences (5a); expletive objects (5b) and er-affixation (5c). The hell in (5b) is an expletive object. Er-affixation in (5c) turns a verb into a noun. The examples are from Burzio (1981)

(5) a Verbal Existential Sentences

There flew through the window a pair of shoes

b Expletive Objects

His attitude irritated the hell out of me

c Er-affixation

He was a careful feeder

These phenomena affect some intransitive verbs differently. Intransitive verbs of one class allow postverbal subject NPs in verbal existential sentences to occur inside the VP in a more natural way than verbs of another class as shown in (6a). Verbs of the same class do not allow expletive objects (6b) and cannot undergo er-affixation. The examples are taken again from Burzio (1981):

(6) a There arose a riot in the state penitentiary

*b New ideas developed the hell out of the
symposium

*c That idea of yours is a real developer

The first phenomenon, also known under the name of presentational sentences, is far from productive (see Burzio (1981)). It can therefore not be used to set off two different verb classes. In addition, the verb used in (5a) can be argued to be unaccusative, although it is, according to Burzio unergative. Motion verbs like the one in (5a) usually group together with unaccusative verbs when they subcategorize a directional PP. To walk, for instance, allows a VP-external-NP quite naturally in verbal existential sentences: Burzio classes it as unergative. The example given by Burzio contains, however, a directional PP.

(7) There walked into the room a unicorn

I will show in this chapter that a small class of verbs in Dutch and in English change category when subcategorizing a directional PP. The verb turns from unergative to unaccusative.

The second phenomenon provides more possibilities to distinguish different classes of intransitive verbs. I will treat this phenomenon in depth in section 4 of this chapter, where I will concentrate not only on the expletive object but also on the second element in the VP, the resultative predicate.

The third phenomenon, like the second, can be used as an indication of the existence of different intransitive verb classes. Unaccusative verbs do not allow er-affixation; unergative verbs do allow the rule to apply. In section 5, I will show that the notions of object of actualization is essential in explaining this phenomenon in English and in Dutch.

Perlmutter shows that it is fruitful to distinguish two classes of intransitive verbs in Dutch (and in many other languages) to account how

they behave in a passive context. An impersonal passive construction in Dutch contains passive morphology and the grammatical formative er 'there' occurs in subject position. Not all intransitive verbs may occur in a passive construction, as is shown in (8).

(8) a Er wordt daar geslapen

there is there slept

'Some people are sleeping there'

*b Er wordt daar gevallen

there is there fallen

*c Er wordt daar gestonken

there is there stunk

Indeed those verbs that can be considered unaccusative under Perlmutter's approach cannot occur in an impersonal passive construction. Here, the relevant semantic distinctions necessary to explain the impersonal passive coincide with the division of verbs into unaccusatives and unergatives. That this characterization is not in accord with the facts will be shown in the following paragraphs.

One of the problems of Perlmutter's (1978) division of intransitive verbs is that it is not possible to account for auxiliary selection using the unaccusative-unergative distinction. Unergative verbs as in (9a) select hebben 'to have'; the unaccusative verbs in (9b) select zijn 'to be' and the unaccusative verb in (9c) selects hebben 'to have'.

(9) a Zij hebben geslapen

they have slept

'They slept'

b Zij zijn gevallen

they are fallen

'They fell'

c Zij hebben gestonken

they have stunk

'They stank'

Auxiliary selection thus cuts across Perlmutter's unaccusative-unergative distinction. It is possible to match these two phenomena by considering the verbs of the subclass containing stinken unergative rather than unaccusative. This step can be motivated when we take a look at the set of data that was introduced in chapter 3, where it was shown that Dutch nonstative intransitive verbs can be used statively in a productive way. The verb lopen 'to walk' can be used in the way indicated in (10). The verb has a means NP as its subject in (10a); in (10b) the subject denotes the circumstances under which the walking takes place; and in (10c) the surface that is walked on is denoted by the subject.

- (10) a Deze schoenen lopen niet lekker
 these shoes walk not nice
 'These are inconvenient shoes for walking'
- b Dat loopt beter.
 that walks better
 'It is more convenient to walk this way'
- c Deze vloer loopt niet lekker
 this floor walks not nice
 'This is not a nice floor to walk on'

None of the sentences in (10) can be passivized, as shown in (11): they all call for the auxiliary hebben 'to have' rather than zijn 'to be', as in (12).

- (11)*a Er werd door deze schoenen niet lekker gelopen
 there was by these shoes not nice walked
- *b Er werd daardoor niet beter gelopen
 there was by that not better walked
- *c Er werd door deze vloer niet prettig gelopen
 there was by this floor not nice walked

- (12) a Deze schoenen hebben nooit lekker gelopen
 these shoes have never nice walked
 'These were always inconvenient shoes for walking'
- b Dat heeft nooit goed gelopen
 that has never good walked
 'It was never convenient to walk this way'
- c Deze vloer heeft nooit lekker gelopen
 this floor has never nice walked
 'This was never a good floor to walk on'

Derivation of the subject of these nonactivity sentences will complicate the grammar enormously. First of all, we would have to use rules that move a means PP, a circumstantial PP, or a locative PP into subject position and delete the preposition. The nonstative counterparts of the sentences in (10) are given in (13). The prepositional phrases match the subject NPs in (10) more or less semantically.

(13) a Hij liep op hele mooie schoenen

he walked on very nice shoes

'He walked with very nice shoes on'

b Ik loop beter op deze manier

I walk better on this way

'I walk better this way'

c Ik loop niet lekker op deze vloer

I walk not nice on this floor

'I do not walk well on this floor'

Secondly, this type of treatment of statives cannot explain why some locative, instrumental, means etc. phrases that may occur in postverbal position in nonstative sentences, may occur in the subject position of stative sentences. This phenomenon has been discussed for the verb schrijven 'to write' in chapter 3. Here I give a comparable set of data for lopen 'to walk'.

- (14) a Deze schoenen lopen niet lekker
 these shoes walk not nice
 'These are not good shoes for walking'
- b Deze sokken lopen niet lekker
 these socks walk not nice
 'These are not good socks for walking'
- *c Deze hoed loopt niet lekker
 this hat walks not nice
- *d Deze jas loopt niet lekker
 this coat walks not nice

The data in (14) can be explained, as the data presented in chapter 3. Stative sentences, as was argued there, only imply the predication of a property, expressed in the predicate, over the subject NP. States do not take place in reality as events do. Schoenen 'shoes' and sokken 'socks' obviously have properties that could be called 'walking'--properties. They influence the ease of walking in a direct way. This is less so for the hoed 'hat' in (14c) and the jas 'coat' in (14d). These entities may also influence the ease of walking but they cannot be related to the action of walking in a direct way. They do not effect the ease of moving the feet up and down and the movement forwards that results from this.

Concluding the stative issue, we can say that if it is assumed, in contrast to Perlmutter, that stative verbs do not have derived subjects, it is easy to explain their particular semantic behaviour and the distribution of auxiliary verbs. We will see in section 4 of this chapter that this class of verbs also behaves in a special way when they subca-

tegorize a resultative predicate. Moreover, the outcome of this chapter will be that the derivational status of the subject NP depends on Event Structure which excludes derivation of the subject of statives, because statives do not have any event structure. This is a matter we will touch upon in section 5.

In Hoekstra (1984) two other diagnostic tools are presented for distinguishing the class of unaccusatives from the one of unergatives. Participles, as is shown on page 181 of this study, can only "be used as predicates over nouns which correspond to their initial direct object." The participle derived from the unaccusative breken 'to break' is grammatical (15a), but not the one derived from the unergative slapen 'to sleep' (15b). Transitive verbs allow these participles when their direct object occurs as the head noun, but not otherwise (16).

(15) a de gebroken vaas

'the broken vase'

*b de geslapen vrouw

the slept woman

(16) a het gegeven boek

'the given book'

*b de gegeven man

the given man

The above data group together direct objects of transitive verbs and subjects of unaccusative verbs. I will show in section 5 that this phenomenon indeed separates both verb classes. It will also become clear in that section that more can be said about the semantics of this phenomenon, because it is only the object of termination in terms of Event Structure that may be modified by these participles.

(19) a He broke the vase

b The vase broke

(20) a He sank the boat

b The boat sank

Burzio adds a few verbs to the list of unaccusatives on page 263 of his thesis. These are arise, emerge, develop, ensue, begin and exist. These verbs are different from other intransitive verbs because they allow neither er-affixation nor expletive objects.[3] As such they group together with the intransitive verbs in (19) and (20). Burzio does not elaborate on the semantics of these verbs. It is easy to see, however, that usage of the notion of patient-subject is a clumsy way to decide whether those verbs from the above list that are always intransitive, are unaccusative. These are arise, emerge and exist. The problem here is that it is difficult to determine the semantic role of the subject using the agent-patient distinction. This brings us to another objection to Burzio's approach. If we say that the patient-role calls for an unaccusative verb, we are left with only a subset of verbs that can be unaccusative. We will see in section 4 that there are many verbs without a patient-subject that group together semantically and syntactically with the intransitive verbs in (19) and (20).

Perlmutter (1978) presents an extensive list of the different semantic classes of verbs that are either unaccusative or unergative. He states that this division is universal, although some variation may exist across languages. Predicates describing willed or volitional acts (speak, study), and predicates denoting certain involuntary bodily processes (cough), are unergative. The unaccusative predicates are the

ones expressed by adjectives in English; predicates with a patient-subject (burn, fall); predicates of existing and happening (occur, result); predicates expressing non-voluntary emission of stimulæ that effect the senses (shine, pop); and aspectual predicates (begin, start) and duratives (last, remain). Unergative verbs are basically the ones that express activity. A problem with the above list is (as well as with Burzio's semantic account) that it does not follow necessarily from it that verbs having a particular type of semantics (i.e. the non-activity-type) must have a derived subject. One of the verb classes is not unaccusative at all. This is the class of predicates expressing non-voluntary emission etc. or the stinken (c.q. stink)-type of verbs that I have introduced in the preceding section. The verbs in this class are all stative, in contrast to the other verbs in Perlmutter's enumeration, which are nonstative. I will return to this class in the next section. Secondly, we will see in section 5 of this chapter that the semantics used by Perlmutter does not divide intransitive verbs correctly. Activity verbs, which he says are unergative only, can be unaccusative in Dutch and English under specific circumstances. This follows from our assumptions about Event Structure and its mapping onto deep structure. Note that this move would also have been necessary within Perlmutter would have to admit this to his own framework to maintain the relationship between unaccusativity and the impersonal passive in Dutch. This is because motion verbs and unergative verbs do not always undergo impersonal passivization. When a motion verb subcategorizes a directional PP (21a) and an unergative verb the particle uit (21b) the rule cannot apply. Still both verbs in (21) express activity.[4]

(21)*a Er werd daar de deur uitgelopen
 there was there the door out walked

*b Er werd daar uitgewerkt
 there was there out worked

'They finished working there'

I will say more about these data in the following sections of this chapter.

4.4 Resultatives

Most syntactic phenomena in section 2 distinguish poorly between unaccusativity and unergativity. Only two syntactic phenomena are useful here: these are the occurrence of an expletive object in the VP and, possibly, auxiliary selection in Dutch. The use of expletive objects is a phenomenon that is productive both in English and in Dutch. It will be the main concern of this section. I will mainly give English data, implying that syntactically equivalent data can be found in Dutch.

Constructions containing expletive objects presented in Burzio (1981) also contain a directional PP or a particle.

(22) a He was humming his head off

b They charged the hell out of you

The constructions in (22) are instances of so-called resultative sentences. These sentences contain a resultative predicate that expresses the result or the end of an action. A resultative predicate may be realized as a NP, an AP, a particle or a directional PP. As has been noted in Bolinger (1971), it is not always clear whether a result is expressed by the predicate. Perhaps the notion of resultative predicate

needs to be replaced by the notion of perfective predicate. The presence of these predicates seems to imply perfectivity or accomplishment in general.

(23) a He called me a liar

b He worked himself sick

c He broke the branch off

d He pushed me out of the line

Different proposals have been made for the formal analysis of this construction; see: Stowell (1981), Williams (1980) and Simpson (1983). Resultatives are important to this discussion because if you combine a resultative predicate and an intransitive verbs, three effects may ensue: the intransitive verb becomes transitive (24b); the intransitive verb remains intransitive (in surface structure) (25b); or the sentence becomes ungrammatical (26b), (26c).

(24) a He laughed

b He laughed himself sick

(25) a The branch broke

b The branch broke off

(26)*a The dog stank awfully

*b The dog stank off

*c The dog stank his head off

It is not difficult to explain the above data. First we assume that a resultative predicate has to be coindexed with a subject using predication rule in the sense of Williams (1980). Secondly we assume that the subject of this predicate needs to occur in direct object position. This assumption will be explained in chapter 6. In contrast to the type of

predication exhibited in (27a), resultative predication can never have its subject in a position different from that of the direct object, as shown in (27b). So (27b) cannot mean that the entity denoted by the subject NP got off the stage.

(27) a He ate the pie naked^a
 i i

*b He laughed her off the stage
 i i

Unergative verbs have to become transitive because of this condition. Unaccusative verbs may remain intransitive in surface structure as their subject originates in direct object position in deep structure. Stink-type verbs are different from the other two verb types in that they never allow resultative predicates. The fundamental difference between this type of verb and other verbs is that it does not occur in constructions expressing an event in which the NP denoted by the subject NP is involved one way or another but a state. This class of verbs has been discussed extensively throughout chapter 3 and earlier in this chapter. A stative sentence does not imply that the subject is involved in the state. This can be seen in (28). Adverbs that refer to the feelings or the activity of the entity denoted by the subject NP during an event are not possible in stative sentences, as shown in (28).

(28)*a Uncle John always stinks awfully with a lot
 of pleasure

*b He looked tired without a lot of effort

An imaginable interpretation of a sentence like (28a) could be that Uncle John took great pleasure in stinking awfully. (28b) has a grammatical reading. Then the predicate look tired would mean that a person

is trying to look tired, rather than that the person has a tired appearance. One can imagine such an unlikely situation in which a stage player needs to look tired as part of his role, and may actively try to bring this appearance about and maintain it. This grammatical interpretation is excluded when the sentence has a purely stative reading. The above type of adverb is possible only in sentences denoting an event. (29a) implies that the person denoted by the subject NP takes great pleasure in the event of eating. (29b) can imply that a person felt pain while falling.

(29) a He was eating with a lot of pleasure

b He fell down feeling a lot of pain

As is well-known from the literature on aspect, such as Smith (1983), states cannot be delimited like events as having a beginning or an end. In our own terms, this means that stative constructions do not contain an object of origin or actualization nor do they contain an object of termination. Resultative predicates are excluded from stative contexts for this reason, as they denote a final state or an end that needs to be related to an object of termination.[5].

The behaviour of resultative predicates in the VP makes it possible to distinguish three verb classes. One of them can be defined as stative. The other two are nonstative and denote an event that implies the involvement of the subject NP. The latter two classes differ according to their action is accomplished. Unaccusative constructions contain an object of termination; Dutch unergative constructions an object of origin; English unergative constructions an object of actualization. Discussion of these matters is the primary concern of the next section.

4.5 Accomplishment Verbs

In this section, I will show how the two nonstative verb classes that were distinguished in the preceeding section can be contrasted semantically by using the notion of accomplishment or the notion of Event Structure. The notion of accomplishment has been introduced in Vendler (1967) to characterize one of four verb classes, which are repeated from chapter 2, section 1 in (30).

(30) STATES

know

believe

have

desire

love

ACTIVITIES

run

~~sw~~walk

swim

push a cart

drive a car

ACCOMPLISHMENTS

paint a picture

make a chair

deliver a sermon

draw a circle

push a cart

recover from

an illness

ACHIEVEMENTS

recognize

spot

find

lose

reach

die

In Dowty (1979) the differences between these classes are discussed in greater depth. A fundamental difference between accomplishments and activities is that the former may not take place over a period of time, but the latter may. An adverb denoting a period of time is excluded from (31a), but not from (31b).

(31)*a John ate the pie for an hour

b John walked for an hour

Accomplishment verbs can be combined with an adverb that denotes the final point of a stretch of time (32a); activities may not (32b). Note that (32b) can have an acceptable reading according to Dowty only when in an hour expresses the time that elapses before John actually began to walk but not when it denotes the duration of John's action. I will come back to this interpretation of the relation between Event Structure and tense interpretations of sentences in chapter 8.

(32) a John ate the pie in an hour

(*)b John walked in an hour

A difference similar to the one illustrated in (31) can be found between intransitive verbs. The event of sleeping in (33) can take place over a period of time; the event of breaking in (33b) cannot.

(33) a He slept for ten minutes

*b The vase broke for ten minutes

To break from this perspective groups together with transitive accomplishment verbs. The semantics of accomplishment verbs implies the final point beyond which an event stops existing. The division of intransitive and transitive verbs in accomplishment and nonaccomplishment verbs can be extended to a larger number of cases. A resultative predicate denotes the result or the end of an event. As such VPs containing these predicates express accomplishment (or, in Bolinger's terms: perfectivity). This can be seen in (34). An adverb denoting a period of time is excluded when a resultative predicate is present in the VP (34a), but not when it is absent (34b).

(34)*a They talked him into it for two hours

b They talked mathematics for two hours

When an intransitive VP expresses accomplishment the auxiliary zijn 'to be' is selected in Dutch.[6] With intransitive verbs that do not express accomplishment, such as slapen 'to sleep', Dutch uses hebben 'to have'; with accomplishment verbs like breken 'to break' Dutch uses zijn 'to be'. The endpoint of the event is implied in constructions containing the latter verb. This is when the object is broken.

(35) a Hij heeft vier uur lang geslapen

he has four hours long slept

'He slept for four hours'

b De vaas is gebroken

the vase is broken

'The vase broke'

As well, Dutch motion verbs have zijn 'to be' if they occur with a directional PP or a particle (see (36a)). When the PP or the particle does not occur hebben 'to have' is selected, as in (36b).

(36) a Hij is daar de deur uitgelopen

he is there the door out walked

'He walked out the door there'

b Hij heeft daar gelopen

he has there walked

'He walked there'

We encounter, by the way, a difficulty for Perlmutter's semantic division of unergative and unaccusative verbs in (36). Both verbs in (36) are activity verbs but only (36b) can undergo impersonal passive (36a)

though cannot. With Perlmutter's proposals we would expect that only nonactivity verbs -the unaccusatives- are not covered by this rule. (37a) is the impersonal passive of (36a) and (37b) of (36b).

(37)*a Er werd daar de deur uitgelopen
there was there the door out walked

b Er werd daar gelopen
there was there walked

'People are walking there'

There is one more argument structure expressing accomplishment that I wish to discuss here. Both English and Dutch allow a resultative predicate to occur with most intransitive verbs, but without making them transitive. This would be expected because of the condition on resultative predication outlined in section 3. Since resultative predicate needs to find a subject of predication in direct object position, we can expect two things: an intransitive verb becomes transitive when it is unergative; or it remains intransitive, when it is unaccusative. -In English, apparently, unergative verbs may remain intransitive when a particle is added to the VP as in (38a) and (39a). However, we can see in (38b) and (39b) that the sentences express accomplishment.

(38) a He read up on those things

*b He read up on it for hours

(39) a They lived up to a big reputation

*b They lived up to a big reputation for many years

Another way to demonstrate the accomplishment reading of (38a) and (39a) is to use one of Vendler's (1967) tests. Accomplishment, as Vendler observes, may take a certain amount of time to fulfill; activities may

not. This is shown in (40). When the particle is left out, the sentence with the verb take becomes ungrammatical:

(40) a It took him five days to read up on those things

*b It took him five days to read on those things

Intransitive unergatives in Dutch may subcategorize the particle uit 'out'. This particle shows that the event has ended or is accomplished. The verb always cooccurs with the auxiliary zijn 'to be' when subcategorizing this particle.

(41)-a Hij is uitgelezen

he is out read

'He finished reading'

b Hij is uitgewerkt

he is out worked

'He finished working'

(41a) and (41b) are not copula constructions. This can be easily shown. Predicates in Dutch copula constructions cannot follow the main verb of an embedded sentence (see (42a)). The particle uit and its participle can follow the main verb in this context, as shown in (42b).

(42)*a Hij zei dat hij was ziek

he said that he was sick

b Hij zei dat hij was uitgelezen

he said that he was out read

'He said that he had finished reading'

Again we can make a side remark on Perlmutter's semantic foundation of the unergative-unaccusative distinction. Use of the notion of activity cannot explain the ungrammaticality of the impersonal passive of (41a)

or (41b). Both verbs are activity verbs and as such they group together with the unergative verbs under Perlmutter's approach. These verbs can undergo impersonal passive, in contrast to (41a) and (41b). The ungrammatical impersonal passive of these sentences is given in (43a) and (43b).

(43)*a Er werd daar uitgelezen

there was there out read

*b Er werd daar uitgewerkt

there was there out worked

Impersonal passive of the sentences without the particles is correct.

(44) a Er werd daar gelezen

there was there read

'People were reading there'

b Er werd daar hard gewerkt

there was there hard worked

'People were working hard there'

We have seen so far how intransitive verbs can be divided into three different semantic classes. We also encountered some syntactic phenomena that correlate with this division. The reason for the existence of one of these correlations, namely the one between accomplishment and unaccusativity, can be explained quite easily by using the mapping relation between the conceptual notion of Event Structure and deep structure. Before going into this, I will give a schematic overview of the subject matter covered so far.

(45)

semantics	stative	nonstative	
		nonaccomplish- ment	accomplish- ment
data	stink	sleep	drive+dirPP
	stinken	slapen	rijden+dirPP
			read+up
			werken+uit break/breken
English Dutch syntax	unergative		unaccusative
	no	resultative	resultative
	resultative	predicate	predicate
	predicate	+ dir.object	no overt DO
	hebben		zijn
	auxiliary		auxiliary
	no impersonal	impersonal	no impersonal
	passive	passive	passive

In scheme (45) we can see how certain semantic phenomena about accomplishment and stativity appear in syntax. Intransitive accomplishment verbs do not have an overt direct object when they subcategorize a resultative predicate. In Dutch as well these verbs are different in that they select the auxiliary zijn and do not allow the impersonal passive. In Dutch, the latter phenomenon is not typical for this type of verb alone, since stative verbs disallow the impersonal passive as well.

The class of intransitive accomplishment verbs in my approach partially overlaps the class of unaccusative verbs of Perlmutter's (1978) approach. The semantic reason for the unaccusativity of verbs under the latter approach is based on case role assignment. Verbs with agentive subjects are unergative; verbs having nonagentive subjects (which includes all patient-subjects) are unaccusative. We have already seen that this is not always true. Verbs with agentive subjects are sometimes put in the same class as unaccusative verbs according to the subcategorization of a particle or a directional PP. This happens both in English and Dutch. Moreover in Dutch, auxiliary selection also decides whether the verbs with agentive subjects can be classified with unaccusative verbs. (I will get to motion verbs subcategorizing a directional PP in English shortly). In addition, not all verbs having nonagentive subjects are unaccusative. This is the case for the class of stative verbs. These verbs do not allow a resultative predicate to appear in their VP: in contrast to unergative and unaccusative verbs and to Dutch usage, they select the auxiliary hebben like unergatives.

We now have to ask the following question: If unaccusativity is not based on the nonagentivity of the subject NP, what is it based on? Note first that this question seems to be extremely easy to answer with a case role approach within the Government and Binding framework if you suppose, contrary to what I argue in this chapter, that the patient role is the relevant notion here. It has often been said that patient subjects must be in direct object position in deep structure to simplify the lexicon. Then verbs have to be specified to assign the patient role to the direct object in deep structure. There is an argument against

this: here simplification of the lexicon causes a complication on another level of grammar, since a rule has to move the NP from the direct object position into subject position. This derivation, however, comes at no cost as it makes use of two subcomponents of grammar that exist already: namely, the components of θ -role assignment and case assignment. Unaccusative verbs do not assign case to their direct object nor do they assign a θ -role to their subject. Derivation of the direct object follows automatically to avoid violation of the case filter. (See Chomsky (1981) for details).

(46)	NP	fell	he
	- θ		+ θ
	+case		-case

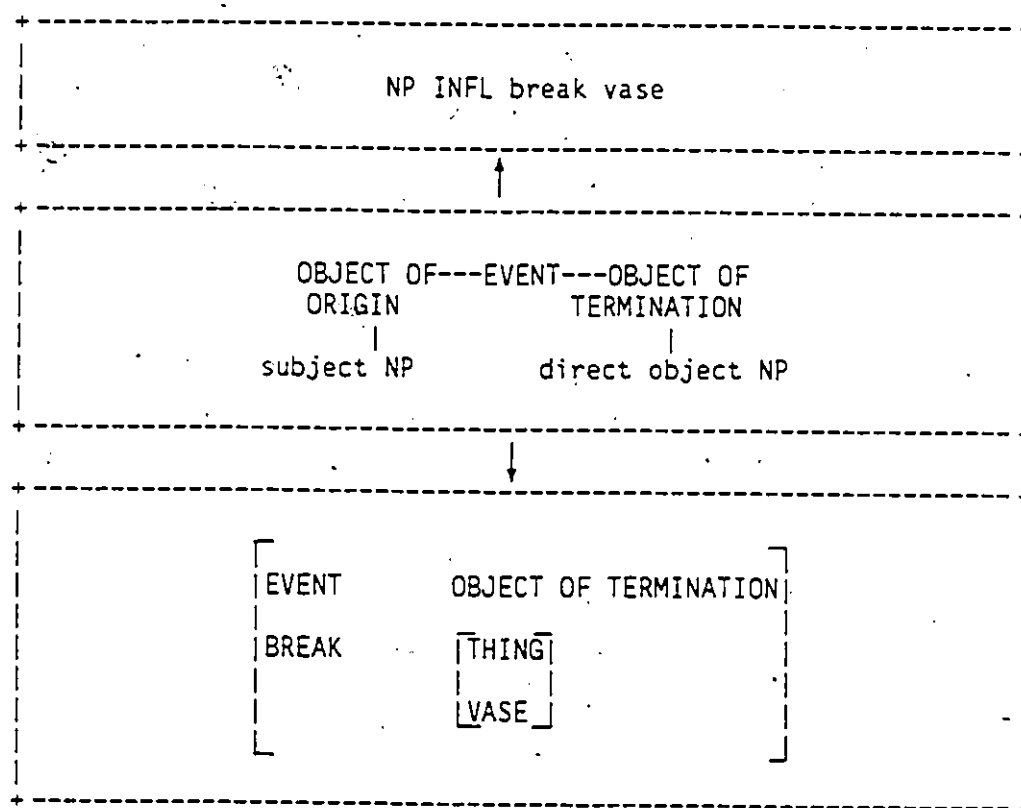
'He fell'

However, the verb fall in (46) has to be specified for not assigning a θ -role to its subject. This extra feature complicates the lexical entry of the verb, because verbs (or VPs) in general assign a θ -role to their subject. A more serious problem with the above analysis is that its basic reasoning may be wrong. There is no well-worked out theory of θ -role assignment that specifies which semantic roles can be assigned to which syntactic positions. Without such a theory, you cannot argue that it is better to assign one type of θ -role to a given argument position rather than another. It may be true that the assignment of the patient role to the subject NP comes at no cost at all.

The right answer to our problem can be found, of course, in the mapping relation that exists between Event Structure and deep structure. As can be seen in (45), all unaccusative constructions express accomplishment. In terms of Event Structure this means that they contain an

object of termination, instead of an object of origin or actualization, as the unergative constructions in (45) do (i.e. the nonaccomplishments). The Event Structure correspondence rule in (47) predicts that objects of termination can only occur in direct object position in deep structure. This explains why the subject of intransitive accomplishment constructions is derived. The notation in (47) is Jackendoff's and was introduced in chapter 1.

(47)



The behaviour of verbs in certain morphological processes can be explained easily with the notions of object of origin or actualization and object of termination. Burzio, as was shown in section 2, uses er-affixation to show the difference between unergative and unaccusative verbs. When er-affixed verbs are considered to denote an object of

actualization in English, we have no difficulty understanding the data in (48). Cases like (48c) and (48d) are excluded as the er-affixed verbs denote an object of termination. The data in (48) are from Burzio.

(48) a That baby is a good eater

b The outfielder is a good thrower

*c That man is a good goer

*d That vase is an excellent breaker

The data in (1) of chapter 3 from Keyser and Roeper (1984) also represent objects of actualization. I have repeated these data in (49). Each of the three categories can be interpreted as follows. A hitter is an entity that actualizes a hitting event; a sticker is an entity that actualizes the sticking, because of its "sticking" properties; and a weeder actualizes the weeding of certain plants.

(49) a AGENT b THEME c INSTRUMENT

hitter sticker weeder

pusher sleeper trimmer

fighter sufferer strainer

Dutch has comparable morphological phenomena. One would expect here that the er-affixed stems in Dutch denote an object of origin and not an object of actualization as in English, because the subject NP in Dutch is defined as an object of origin. The data in (50) show that this is not the case and that er-affixed nouns in Dutch may denote an object of actualization as in English.

(50) a AGENT

eter 'eater'

schrijver 'writer'

leider 'leader'

b THEME

plakker 'sticker'

lijder 'sufferer'

houder 'holder'

c INSTRUMENT

opener 'opener'

kijker 'fieldglasses'

veger 'brush'

Interestingly, er-affixation also applies to some stative verbs in Dutch and English. This seems strange as statives do not exhibit event structure and for this reason are never accompanied by an object of actualization or origin. However, in both languages er-affixation to statives results in a noun that denotes an object of actualization. This is demonstrated by the data in (51).

(51) a sticker

b hanger (cloth-)

c ruiker 'bouquet'

d hanger (kleren-) 'hanger'

A sticker is an object that actualizes the sticking because of its properties. It does not denote just any object that may be stuck to another object, like the subject NP in the stative sentence with the verb to stick in (52a). (52a) does not imply that the object stuck to

the table actualizes the sticking. It may be that glue has done the work, or that the table was sticky one way or another and caused the object to stick to it. Likewise, the (cloth-) hanger actualizes the hanging of the clothes put on it. The word hanger cannot denote just anything that hangs, such as the clothes on a hanger. In stative constructions containing the verb to hang, like (52b), it is not implied that the object that hangs actualizes this "hanging".

(52) a The sheet of paper sticks to the table

(*sticker = sheet of paper)

b The rope is hanging on the wall

(*hanger = rope)

The Dutch word ruiker denotes an entity that produces a smell which means that it actualizes the smell. The subject of the stative verb ruiken 'to smell' in (53a) does not necessarily denote an actualizer. Whether the entity denoted by the subject NP in stative constructions actualizes the state itself is not made explicit. What was said for the hanger in English can also be said for the word hanger in Dutch. So here I will limit myself to giving the Dutch stative sentence with the verb hangen 'to hang'.

(53) a Deze kamer ruikt niet lekker

'This room does not smell nice'

b Je camera hangt in de kast

'Your camera is hanging in the closet'

As well the Dutch participle data presented in Hoekstra (1984) can be explained by using Event Structure. The participle can only modify an object of termination. So (54a) and (54b) are correct but not (54c).

(54) a de gegeten maaltijd

'the eaten meal'

b de gebroken vaas

'the broken vase'

*c de geslapen man

the slept man

It is interesting to see here, that unergative verbs when accompanied by the participle uit 'out' or a directional PP can be used in a participle construction. This agrees with my analysis of these constructions: they express accomplishment and so contain an object of termination. The data are given in (55) and (56). (55a) and (56a) are ungrammatical, but when the particle uit (55b) or a directional PP (56b) is added to them, they become grammatical. The NP man in (55a) and (56a) is, of course, an object of origin, but in (55b) and (56b) it is an object of termination.

(55)*a de gelachen man

the laughed man

b de uitgelachen man

the out laughed man

(56)*a de gelopen man

the walked man

b de naar Amsterdam gelopen man

the to Amsterdam walked man

English data similar to those in (54) are given in (57). (56b) does not have a counterpart in English, as shown in (58b). Replacing the directional PP by a particle with directional meaning does not make a difference (58c).

(57) a the eaten apple

b the broken vase

*c the slept man

(58) a the walked man

*b the walked to Amsterdam man

*c the walked away man

English does allow particles in NPs, as shown in (59a). But not always, as shown by (58c) and (59b). I do not have an explanation for these differences between English and Dutch NPs.

(59) a the broken down car

*b the read up man

In noun phrases too, it is possible to see a difference between objects of origin or actualization, and objects of termination. The preposition door in Dutch typically selects an object of origin, which is also the case in passive constructions, as will be shown in chapter 5. The preposition van in Dutch is used with objects of termination. It can also be used with an object of origin (60), though it seems more correct to me to use door. The relevant Dutch data are given in (60) and (61). The subject of nouns from unergative verbs in (60) may occur in a door-phrase.

(60) a Het voortdurend praten door (?van) die twee

the continuous talking by (of) these two

daar in de hoek stoort me

there in the corner disturbs me

'That continuous talking-by these two there

in the corner disturbs me'

b Het heen en weer lopen door (?van) de

the back and forth walking by (of) the

kinderen op zolder bezorgde hem de kriebels

children on attic brought him the ticklings

'The running back and forth of the

children in the attic got him irritated

The subjects of nouns from unaccusative verbs occur in a van-phrase.

(61) a Het vallen van (*door) zijn vader op straat heeft

the falling of (*by) his father on street has

haar erg veel gedaan

her very much done

'The falling of his father in the street hurt her a lot'

b Het geruisloos wegsluipen van (*door) de

the noiseless awaysneaking of (*by) the

indianen was een echt staaltje van vakmanschap

indians was a real example of mastership

'The noiseless sneaking away of the indians was

a real example of mastership'

It is much more difficult to detect comparable phenomena in English.

The nouns from unergative verbs in (62) take a by-PP, although an of-PP

is also possible. The nouns from the unaccusative verbs in (63) take an of-PP, but some native speakers also accept the by-phrase, as in (63a).[7]

(62) a That running by (of) John really bothers me

b The yelling by (of) these children really upset me

(63)?a All that running to the store by John really

bothers me

b That running to the store of John's really bothers me

??c That running to the store of John really bothers me

The final phenomenon that I want to consider concerns verbal existential sentences in Burzio's terms or, in more general terms, presentational sentences. Although only a subset of unaccusative verbs may occur in these sentences, it is still interesting to look at their behaviour using Event Structure. A typically unaccusative verb like arrive in (64a) can occur in these constructions. The motion verbs in (64b) and (64c) occur in them too, but only when they subcategorize a directional PP: they cannot when no directional PP is subcategorized (65).[8][9]

(64) a There arrived three men

b There rushed three policemen into the room

c There burst a new actor onto the stage

(65)*a There rushed three policemen

*b There burst a new actor

4.6 Conclusion

It follows from what has been argued in the preceding sections that the sentences in (65) to (67) all have a derived subject, since they contain an object of termination. The correspondence rule that maps Event Structure onto deep structure predicts that only the direct object NP may denote the object of termination of an event. (65b) and (66b) are the Dutch counterparts of (65a) and (66a).

(66) a The bomb exploded

b De bom explodeerde

(67) a He ran to the bus station

b Hij holde naar het busstation

(68) a He read up on sports

b Hij is uitgewerkt

he is out worked

'He finished working'

The bomb can be used to determine the termination of the event in (66): the event ends when the bomb is exploded. The termination of the event of running or hollen in (67) is related to the entity denoted by he or hij. The event is terminated when these entities are at the bus station. When the he is "up" on sports, the event of reading in (68a) is terminated. When the hij is "out of" an event of working, this event is terminated as well.

If the deep structure subject is the only position you can assign the agent role to, then what of the verbs in (67) and (68)? These verbs group together with the verbs in (66), but they are normally considered unergative, in contrast to those in (66). In the present approach,

however, the agentive NPs in the sentence pairs (67) and (68) do not originate in direct object position because of case (c.q. thematic role assignment), but because of aspect. Case roles, as I have said in this chapter, have nothing to do with unaccusativity. Thus these roles explain the semantic basis for this derivation in Dutch very poorly.

A way to conceptualize this outcome is to say that events have a HEAD and a TAIL. Sometimes only the HEAD (i.e. the object of origin or actualization) is mentioned in the sentence, as is the case with ordinary unergative constructions; other times only the TAIL (the object of termination) is mentioned, as in (66). In (66), it is only expressed that a bpm ended up exploding, but the cause is not mentioned. We can consider sentences like (67) and (68) in the same way. They only mention the tail of an event: the state of the person denoted by he 'being at the busstation because of a running event'; the states of a person 'being "up" on sports in (68a) because of a reading event'; the state of 'being "out of" an event of working' in (68b). That fact that the events in (67) and (68) also have a head or an object of origin or, actualization, is left unmentioned, as in (66).

The above is not a strange result. This becomes even clearer when we consider the following. Linguists have done very little about how thematic roles can explain grammatical phenomena, although they have done much work on the roles themselves. Moreover, what they have said about this is of little use. For instance, case role semantics cannot explain the semantic nature of the subject NP in languages like English and Dutch, but Event Structure can, as we saw in chapter 3. Thus, it does not follow automatically that case role semantics can explain unaccusa-

tivity. It is strange that so many people believe that a patient- or theme-NP in subject position calls for unaccusativity.

4.7 One Consequence

It has been argued in the literature that the so-called middle or medio-passive in English has a derived subject. This has been done most recently in Keyser and Roeper (1984). Bresnan (1982), Marantz (1981) are examples of other studies that represent this point of view. Two objections can be made against this move now.

First, the semantics of the subject of the middle is analyzable as the semantics that is typical of nonderived subject in English nonstative constructions. This subject NP, as was argued in chapter 3, denotes the object of actualization of an event. The derived subject NP of intransitive accomplishments, in contrast, does not denote the object of actualization but the object of termination.

Secondly, the correspondence rule that maps Event Structure onto deep structure predicts that the subject NP of the middle or medio-passive is only derived when it denotes an object of termination. Intransitive constructions express accomplishment when containing this object. The middle or medio-passive sometimes allows an accomplishment reading, sometimes not. The presence of the adverb for X minutes does not lead to ungrammaticality in (69), but it does in (70). Nonaccomplishments allow this adverb; accomplishments do not.

(69) a This patato peels well for one minute

b These clothes iron easily for five minutes
when damp

(70)*a This suit cleans easily for ten minutes

*b That peach bruises for two seconds

Moreover, most middles that allow a nonaccomplishment reading allow an accomplishment reading as well. The middles in (69) can occur as accomplishments, as shown in (71). The middles in (70) always have an accomplishment interpretation, as shown in (72).

(70) a This patato will peel well in one minute

b These clothes will iron easily in five minutes

(71) a This suit will clean easily in ten minutes

b This peach will bruise in two seconds

The Event Structure Correspondence Rule predicts that only a subset of middle subjects is derived, namely those that can appear in a construction expressing accomplishment. Middles that do not occur in such a construction are predicted to have a nonderived subject. The difference between these two types of middle data is that the middle-subject in the former case denotes an object of termination, and the subject in the latter case an object of actualization.[10]

[1]

Note that there is no theory of correspondence rules that can be used to predict this correspondence on the semantic level. Moreover, intransitive verbs allow the semantic primitive of object of termination to be mapped directly onto the subject position, as in (a).

(a) subject NP-----V
 |
 object of
 termination

The addition of (a) makes the system more complicated as it now contains two rules instead of one. Although there is no firm semantic evidence against (a), I will assume (1) to be the correct formulation of the rule. Note that the system is also made more complicated semantically by (a). The subject NP of nonstative constructions now is not describable anymore as denoting an object of origin or actualization. Instead a new semantic generalization has to be found which also covers NPs that denote an object of termination (a). Syntactic evidence may be more conclusive, but this evidence is not the subject of this thesis. For more information on this topic, I refer to the literature cited in this chapter. In contrast to what is argued in Schermer-Vermeer (1985), I think that syntax and semantics can be studied independently in this area. On the one hand we find syntactic phenomena that can be studied from a purely formal perspective. On the other hand we find verb classes that are created by these phenomena, as they do not apply to all verbs. These verb classes can be studied semantically without further implication of syntactic structure. For instance, a class of

intransitive accomplishment verbs can be established without reference to the syntactic status of the subject of these verbs.

[2]

This observation is also made in Schermer-Vermeer (1985), where the following two examples are given.

- (a) ----dat mijn dochtertje die schoentjes toch
 ----that my daughter those shoes anyhow
 niet meer passen
 not more fit
 '----that those shoes do not fit my daughter
 anymore'.
- (b) ----dat oudere mensen zulk gedrag bijzonder
 that older people such behaviour very much
 ergert
 annoys
 '----that older people are very much annoyed by
 such behaviour'

[3]

Words like developer and beginner are derived from the transitive counterpart of the unaccusative develop or begin. Both words denote entities that actively develop (a) or actively (b) begin something, rather than entities that develop or begin because of external forces such as in (c) and (d).

- (a) He developed the city into a lush paradise for
 the rich
 (developer = he)
- (b) He began the protest

(beginner = he)

(c) The discussion did not develop into a nice
argument

(*developer = discussion)

(d) The lesson began around three o'clock

(*beginner = lesson)

[4]

Note that a lot of directional PPs are ambiguous between a purely directional reading and a path reading. This difference is reflected in Dutch by the auxiliary that is selected. The PP in (a) has a directional interpretation; the PP in (b) denotes a path that goes into a certain direction.

• (a) Hij is naar Amsterdam gelopen

he is to Amsterdam walked

'He walked to Amsterdam'

(b) Hij heeft naar Amsterdam gelopen

he has to Amsterdam walked

'He walked to Amsterdam'

[5]

This fact can be used as another piece of evidence for my analysis of the middle as nonstative, in contrast to the superficially similar Dutch stative data. Middles do allow resultative particles, as shown in (a) and (b). This is an indication of their nonstative nature. The constructions in (a) and (b) with the resultative particle off express accomplishment.

(a) This table top wipes off easily

(b) These threads just won't brush off

[6]

Copula verbs too select zijn 'to be' as their auxiliary like intransitive accomplishment verbs. This zijn copula does not occur in accomplishment contexts. Examples of two Dutch copula verbs are given in (a) and (b).

(a) Hij is ziek geweest

he is sick been

'He has been sick'

(b) Die jas is mij te groot gebleken

that coat is me too big seemed

'That coat seemed too big for me'

[7] I thank J. Pustejovsky for these data

[8] (64a) and (64b) are from Lappin (1985)

[9]

This means that these verbs have changed from an unergative motion verb into an unaccusative motion verb. Thus again we find a phenomenon that is sensitive to Event Structure. It should be mentioned, however, that this phenomenon is far from productive and it cannot be used to distinguish constructions with or without a directional PP. Both presentational sentences with the verb to roll in (a) and (b) are ungrammatical.

(a)*There rolled a ball onto the stage

(b)*There rolled a ball

A better way to distinguish motion verbs with a directional PP from motion verbs without such a PP is the use of pseudo-passive constructions. This phenomenon will be discussed in chapter 5.

[10]

Middles can be accomplishments or non-accomplishments. This may be the explanation for the fact that middles sometimes behave like unergatives and sometimes like unaccusatives. This has been observed in Keyser and Roeper (1984). To prove this, each of the phenomena discussed in this article has to be reanalyzed from the perspective of aspect. Examples of these phenomena are: re-prefixation, out-prefixation and ing-suffixation. It is conceivable that some of these phenomena apply to intransitive nonaccomplishments only and others to intransitive accomplishments.

Chapter V
PASSIVIZATION

5.1 Introduction

In chapter 4, I have shown how certain syntactic phenomena relate to the semantics of aspect. The different correlations are given in the scheme in (1), which is taken from chapter 4.

(1)

semantics	stative	nonstative	
		nonaccomplish- ment	accomplish- ment
data	stink	sleep	drive+dirPP
	stinken	slapen	rijden+dirPP
			read+up
			werken+uit
			break/breken
English Dutch syntax	unergative		unaccusative
	no	resultative	resultative
	resultative	predicate	predicate
	predicate	+ dir.object	no overt DO
	hebben		zijn
	auxiliary		auxiliary
	no impersonal	impersonal	no impersonal
	passive	passive	passive

Stative verbs never cooccur with a resultative predicate, because these predicates need an object of termination as their subject of predication. States, unlike events, are neither delimited by an object of origin or actualization, nor are they delimited by an object of termination, as they do not take place in reality. The nonstative nonaccomplishment and accomplishment constructions do take resultative predicates as the events denoted by them can be delimited by an object of termination. The unaccusativity of verbs depends on the mapping of the conceptual structure of the event onto deep structure. An intransitive accomplishment verb has a derived subject, because its one argument NP denotes the object of termination. Only the direct object NP can be this object of termination. Dutch auxiliary selection depends on the status of the subject NP as derived or nonderived and, as such, depends indirectly on Event Structure.

The only relationship between syntactic and semantic phenomena in (1) that has not been treated in chapter 4, is the passive. The Dutch impersonal passive can only apply to nonstative nonaccomplishment constructions. It cannot apply to stative and accomplishment constructions. I conclude that this impersonal passive only applies to constructions that contain an object of origin. Only nonstative nonaccomplishment constructions contain such an object. The other two constructions do not. In this chapter I will show that this is indeed the right conclusion. This does not only apply to the Dutch. It applies to the English personal passive and pseudo-passive too if we replace the notion of origin by the notion of actualization.

I will first discuss the personal passive construction and give the data for the impersonal passive. This will be followed by the discussion of the relation between Event Structure and passive. Finally, I will devote one section to discussing how philosophical approaches on state and event semantics tie in with the grammatical phenomenon of the passive.

5.2 Personal and Impersonal Passive

A well-known fact of English and Dutch is that the rule of the personal passive applies to most transitive constructions, but not to all. A number of transitive constructions that may undergo the passive in Dutch and English have semantic counterparts that do not undergo the rule. An example of this in English is to own in (2) and its counterpart to have in (3). To own may passivize; to have may not.

- (2) a He owns that red car
- b That red car is owned by him
- (3) a He has a red car

*b A red car is had by him

Dutch examples are given in (4) and (5). The verb leiden 'to lead' in (4) can be passivized, but not its apparent synonym in (5).

(4) a Hij leidde de hele organisatie

'He led the whole organisation'

b De hele organisatie werd door hem geleid

'The whole organisation was led by him'

(5) a Hij heeft de leiding over de hele organisatie

he has the lead over the whole organisation

'He leads the whole organisation'

*b De leiding wordt door hem over de hele

the lead is by him over the whole

organisatie gehad

organisation had

Other verbs have two readings, but only one of them can occur in passive contexts.. An example of this is to miss in English and its counterpart missen in Dutch. When to miss or missen are experimenter verbs, as in (6) and (7), they can be passivized.

(6) a He misses Mary a lot

b Mary was greatly missed by him

(7) a Mary miste zijn vrienden erg

'Mary missed his friends a lot'

b Zijn vrienden werden erg door Mary gemist

his friends were very by Mary missed

'His friends were missed a lot by Mary'

When the verb has the reading synonymous with 'to lack something' it cannot be passivized, which is shown in (8) for English and in (9) for Dutch.

(8) a This table is missing a leg

*b A leg is being missed by this table

(9) a Deze tafel mist een poot

'This table is missing a leg'

*b Er wordt een poot door deze tafel gemist

there is a leg by this table missed

Finally, there remains a number of verbs that cannot be grouped in the two categories above. Two English examples are To resemble in (10a) and to know in (10b). Two Dutch examples are weten 'to know' and bevatten 'to contain' in (11).

(10)*a John was resembled by Bill

*b These questions are not known by Peter

(11)*a Deze dingen werden door zijn broer niet geweten

these things were by his brother not known

*b De bal wordt door de doos bevat

the ball is by the box contained

Unlike English, Dutch allows passivization of intransitive constructions or impersonal passive. This rule, like the personal passive applies only to a small number of constructions. Stative and accomplishment constructions cannot be passivized, as follows from (1). This is demonstrated in (11)-(13). The nonstative nonaccomplishment construction containing slapen 'to sleep' in (12a) can be passivized; the stative construction in (13a) cannot and; the accomplishment containing inslapen 'to fall asleep' in (14a) cannot either.

(12) a Zij hebben in die kamer geslapen

'They have slept in that room'

b Er wordt in die kamer geslapen (door hen)

there is in that room slept (by them)

(13) a Dat bed slaapt niet lekker

that bed sleeps not nice

'This is not a nice bed to sleep in'

*b Er wordt niet lekker geslapen (door dit bed)

there is not nice slept (by this bed)

(14) a Hij is ingeslapen

he is in slept

'He fell asleep'

*b Er werd ingeslapen (door hem)

there was in slept (by him)

Ruiken 'to smell' and smaken 'to taste' are other examples of verbs that do not undergo impersonal passive. This is shown in (15) and (16).

(15) a Deze hond ruikt naar modder

'This dog smells of mud'

*b Er werd door deze hond naar modder geroken

there was by this dog of mud smelled

(16) a Deze drop smaakt naar anijs

'This licorice tastes of anise'

*b Er werd door deze drop naar anijs gesmaakt

there was by this licorice of anise tasted

From the intransitive data in (12)-(14), I conclude that only intransitive constructions that contain an object of origin can be passivized in Dutch.

In English, comparable phenomena can be observed in the domain of pseudo-passivization. [1] Pseudo-passives are only grammatical when they are based on an intransitive construction that contains an object of actualization. This is shown in (17).

(17) a The bed is often slept in

b This picture is occasionally looked at

Constructions containing an object of termination -the accomplishments- cannot be used to create a pseudo-passive, as shown in (18).

(18)*a This room is run into

*b The town is driven towards

When a locative PP instead of a directional PP is used, pseudo-passive is possible with motion verbs. The construction, pseudo-passive is based on, contains an object of actualization rather than an object of termination, as is the case with the sentences in (18).

(19) a This sidewalk should not be walked on

b This pole is meant to run around -

Stative constructions can never occur as a pseudo-passive, which is shown in (20).

(20)*a Perfume was smelled of (by the room)

*b Pepper was tasted of (by the potatoes)

Passivization, as is shown in (1), ties in with the semantic distinctions that can be made among verbs using aspect. I will show in the next section that this also goes for passivization of transitive constructions or personal passive.

5.3 Stativity

The observation that passive of intransitive constructions only applies when an object of origin or actualization (in English) is present can be generalized to transitive constructions. This implies that you can use the passive only when the subject NP in a transitive construction denotes an object of origin or actualization. To explain the data presented in section 5.2, I must now show that the subject NP of the transitive constructions that can not occur passivized do not denote an object of origin or actualization and are stative. I exclude a third option: that the subject NP denotes an object of termination, because the Event Structure correspondence rule predicts that only direct objects in transitive constructions may denote an object of termination. In this section, I will show that it is indeed the case that nonpassivizable transitive constructions are stative under our definition.

I have defined states as predications of a property -expressed in the predicate- over a subject of predication, denoted by the subject NP. States do not take place like events do: the entities denoted by the various NPs in a stative sentence do not take part in an event. Events take place in reality and the entities denoted by the subject and the direct object NP in nonstative constructions can be involved in them. This difference between states and events can be demonstrated by inserting adverbs like with a lot of pleasure-met veel plezier into the sentence. These adverbs, however, only apply to animate entities. In order to show whether a sentence with an inanimate subject is stative or not we can use another type of adverb: namely, without any effort-zonder veel inspanning or without any difficulty or zonder veel moeite. The

former type of adverb tells us how much the entity was engaged -involved- in the event. The latter type tells us how much effort is needed to keep an event going or to make it happen. States do not take place in reality. So the latter type of adverb cannot be in a stative construction: states do not come about because of effort.

The transitive sentence pairs given in section 5.2 can be distinguished as follows. One can be involved in owning something (21a) but not in having something (21b).[2]

(21) a He has always proudly owned that Chevy

*b He has always proudly had that Chevy

The verbs lijden 'to suffer' and hebben 'to have' in Dutch can be distinguished as follows. One can pijn lijden 'suffer pain' without moaning or zonder te kermen as in (22a) and thus be involved in the suffering. One cannot pijn hebben 'have pain' without moaning, as shown in (22b).

(22) a Hij leidde zonder veel inspanning de hele
he led without much effort the whole
organisatie
organisation

'He led the whole organisation without much effort'

??b Hij had zonder veel inspanning de leiding
he had without much effort the lead
over de hele organisatie
over the whole organisation

The two readings of to miss or missen in Dutch can be distinguished along similar lines. One can miss a person very much, as shown in (23a)

for English and in (23b) for Dutch. This implies that you can take part in the event. One cannot miss a tooth very much and, under the interpretation that one can, we are back to the meaning expressed in (23). In other words, one cannot lack a tooth very much. This is why the English (24a) and the Dutch (24b) are ungrammatical.

(23) a He missed Mary very much

b Hij miste Marie heel erg

'He missed Mary very much'

(24)*a He is missing that tooth very much

*b Hij mist die tand heel erg

'He is missing that tooth very much'

Finally, I will show that the sentences in (10) and (11) are stative. There you cannot have an adverb showing the way in which the entity denoted by the subject NP is involved in the event. Nor can you have an adverb showing how easy it is to bring about the event. It is not possible to proudly resemble a person (25a) and thus be involved one way or another in the "resembling". In (25b) it is shown that it is not possible to "proudly know" something and thus be involved in some way in the "knowing".

(25)*a Bill resembled the prime minister proudly

*b Peter proudly knew these matters

The same goes for the Dutch sentences in (11). One cannot weten 'to know' something met veel plezier 'with a lot of pleasure' (26a) and a box cannot bevatten 'contain' something without any effort or, in Dutch, zonder enige inspanning. So again, the entities denoted by the subject NP cannot be involved in stative contexts.

(26)*a Hij wist die dingen met veel plezier
 he knew these things with much pleasure

*b Deze doos kan de bal zonder enige
 'this box' can the ball without any
 inspanning bevatten
 effort contain

One problem of using the above tests to show stativity is the ambiguity of the reading of certain adverbs. This means that the tests do not always provide us with black and white proofs. I want to give here one example to make the reader aware of this problem. It is not only the grammaticality judgement that is of importance but also the semantic interpretation of the sentence.

One adverb in Dutch that seems similar to the English without difficulty is zonder veel moeite. This adverb can be used in the nonstative sentences in (27) but also in the stative (28a) and (28b).

(27) a Hij reed de auto zonder veel moeite de
 garage in'

'He drove the car into the garage without
 difficulty'

b Hij sliep altijd zonder veel moeite op die
 harde bank

'He always slept without difficulty on that
 hard couch'

(28) a Deze doos kan zonder veel moeite alle boeken
bevatten

'This box can contain all the books without
difficulty'

b Deze doos had zonder veel moeite nog ruimte
voor vijf boeken

'This box had space for another five books
without difficulty'

The adverb zonder veel moeite in (27a) ~~and~~ (27b) shows how much the entity denoted by the subject NP must take part in the event for the event itself to happen. The adverb zonder veel moeite in (28a) and (28b) has a speaker oriented reading and does not specify that some person needs to make a great effort to bring about a "containing-event". It only specifies that it will pose no problems, according to the utterer of the sentence, to fit all books (28a), or the five books (28b), into the box.

The outcome of the preceeding section and this one is simple and can be easily fitted into the ideas put forward in this thesis. A construction can only be passivized when it contains an object of origin or actualization. This implies that the preposition by in the by-phrase in English and the preposition door in the door-phrase in Dutch subcategorize an object of actualization and an object of origin. This is not limited to passive contexts - it can be extended to other syntactic contexts such as noun phrases. The by-phrase in (29a), and the door-phrase in (29b), both in a noun phrase, also contain an object of actualization and of origin respectively. These objects can also occur in a

van-phrase, like the objects of termination in (30). An object of termination never occurs in a by- or door-phrase. The b-sentences are the Dutch counterparts of the a-sentences.

(29) a The attack by (of) the Normans has devastated
the whole countryside

b De aanval door (van) de Noormannen heeft het
hele platteland verwoest

(30) a The collapse of (*by) the bridge really
surprised me

b Het ineensstorten van (*door) de brug heeft me
echt verrast

My analysis of passive refutes the idea that passive applies to constructions depending on the specification for the rule of verbs in the lexicon, as has been suggested in the Lexical Functional Grammar Framework (Bresnan (1982)). My analysis also refutes the idea that the notion of activity is important in explaining the applicability of passive, which has been argued within the framework of Relational Grammar (Perlmutter (1978)). This is all I have to say about passive. I will use the next section to go on a sidetrack and discuss more in depth one of the differences between philosophical studies on state and event semantics and my own approach. The passive will be an important ingredient of this discussion.

5.4 Definitions of Stativity

In this section, I will focus on the relation between semantic definitions given in some of the philosophical literature and grammatical phenomena, in particular passive. A multitude of definitions for stativity has been given in the philosophical tradition on verb typologies. Vendler (1967) bases his definition on the semantic notions of aspect and time. Unlike events, states are not processes going on in time. You can see this in English as follows. Stative verbs cannot appear in the progressive form. I have outlined the problems of this definition in chapter 2. Nordenfelt (1977) not only criticizes Vendler's aspectual approach to verb typology, but also gives a new definition of states. An object is said to be in a state at a certain time when it has a contingent property or stands in a contingent relation of some kind. Mourelatos (1978) uses the notion of activity and the distinction between mass and count to set off states from the other semantic categories he distinguishes.

Vendler's definition of statives groups together verbs not grouped together under my definition. To have and to own both have to be considered stative in Vendler's approach. They do not denote a process going on in time and they exclude the use of the progressive form (31).

(31)*a He is having a red car

*b He is owning a red car

Vendler's definition cannot help us to distinguish transitive verbs that passivize from those that do not. To own can occur in a passive context but to have cannot. Verbs that do not allow impersonal passive in Dutch cannot be distinguished either using Vendler's typology. Dutch does not

have a progressive form: this implies that only the semantic part of Vendler's definition can be used. We now have to distinguish (32a) from (32b), since (32a) can be passivized but not (32b), as shown in (33).

(32) a Piet drinkt veel

'Peter drinks a lot'

b Dit glas drinkt niet lekker

this glass drinks not pleasant

'This is not a nice glass for drinking'

(33) a Er werd veel door Peter gedronken

there was much by Peter drunk

'A lot was drunk by Peter'

*b Er werd veel door dit glas gedronken

there was much by this glass drunk

It is not clear on an a priori basis whether (32b) means the glass is used in a process of drinking or whether it refers to a property of the glass, as I have argued in chapter 3.

Nordenfelt and Mourelatos have argued that the progressive form in English cannot help us to decide upon verb classes, in contrast to what is assumed by Vendler. Nordenfelt goes even as far as to state that only the semantic definition is a workable tool to distinguish statives from nonstatives. An object is in a state when it has a contingent property, or stands in a contingent relation of some kind. By a contingent property (relation), Nordenfelt means: "a property (relation) which does not belong to its bearer as a logical consequence of the simple fact that the bearer is an object of a particular kind" (page 44). Examples of these properties or relations include existence,

location, classmembership, quality, possession. To own refers to a possession and classifies as a stative here. This shows immediately the difference between Nordenfelt's approach and my own. I have defined states as predications of a property, expressed in the VP, over the subject NP. This matches Nordenfelt's definition if we interpret relations as the property of having a certain relation to another entity. What is missing is that states do not take place like events do. Sometimes the differences between states and events are hard to perceive. Often it is only after the insertion of adverbs of the class with a lot of pleasure etc. that we can see whether we are dealing with a state or an event. This is what I have done in section 5.3 for the verbs to own and to have. To own occurs in constructions expressing an event; to have does not when we follow my approach. This goes against Nordenfelt's typology. A comparable minimal pair is to have a swim and to swim. You can say that both expressions denote an event. However, under my definition these two expressions in (22) differ according to stativity. to swim "takes place", to have a swim does not, as shown in (34).

(34) a The beaver swam in the lake silently

*b He had a swim in the lake silently

Mourelatos (1978) uses the mass-count distinction to set off states from events. States, in contrast to events, cannot be counted in the way outlined in (35b). Events can be counted this way, as shown in (36b). The examples are from Mourelatos.

(35) a John hates liars

*b There is a hating by John of liars

(36) a Vesuvius erupted

b There was an eruption of Vesuvius

When states occur with cardinal count adverbs, reference is made to the occasions of the state rather than to the state itself. With events, reference is made to the occurrence of it when this count adverb is used. Note that this point agrees with my own definition of states as 'not taking place in reality', which means that they do not occur like events. The phenomenon is illustrated in (37a) and (37b).

(37) a Vesuvius erupted three times

b John hated liars three times in his life

The semantic typology of Mourelatos does not distinguish between states and events alone, but between states, processes and events. In Vendler's analysis, processes have similarities with both states and events. This category is, however, not important to this discussion. What is important is that Mourelatos' verb typology does not tie in with the passive. First of all, to own and to have cannot be distinguished using the criterion of countability. Both sentences in (38) are ungrammatical.

(38)*a There is a having of John of a book

*b There is an owning of John of a book

Secondly, using cardinal count adverbs is not suitable for separating states from events. Although I agree with the semantic distinctions Mourelatos makes, the test does not always show these. At first sight, (39a) and (39b) hardly differ in stativity. But as we saw in (34), a

distinction can be made between them according to whether they are stative or not. The presence of count adverbs does not help us to distinguish these two sentences.

- (39) a He swam on the lake three times while in the park
 b He had a swim on the lake three times while in the park

Thirdly, Mourelatos gives English intransitive verbs to illustrate his four basic verb types, but none of their Dutch counterparts can undergo the impersonal passive. If a verb typology could tell us whether a verb can passive or not, we would expect that at least one verb type could undergo the rule. The examples are given in (40)-(43) together with the ungrammatical Dutch impersonal passive sentence. In Vendler's typology processes are activities; developments are accomplishments; and punctual occurrences are achievements.

(40) State

a The air smells of jasmine

*b Er werd naar jasmijn geroken door de lucht
 there was of jasmine smelled by the air

(41) Process

a It's snowing

*b Er werd gesneeuwd
 there was snowed

(42) Development

a The sun went down

*b Er werd ondergegaan door de zon

there was under went by the sun

(43) Punctual Occurrence

a The cable snapped

*b Er werd door de kabel geknapt.

there was by the cable snapped.

In this section we have seen that verb typologies developed in the philosophical literature do not deal with the passive. Because of these findings, I want to suggest that it is helpful to study verb semantics by looking more closely at how rules of grammar divide all verbs in a language into classes. In this chapter we have seen which semantic factors help to separate verbs that do and verbs that do not undergo passive. It is more or less plausible that these factors play a role in verb typologies as well: i.e. verb typologies with a certain grammatical relevance or that tie in semantics and the grammatical system. This approach reduces the number of possible verb typologies and, as such, it limits the number of possible semantic theories.

[1]

This was suggested to me by Shalom Lappin. The data in (17), (18) and (19) are his.

[2]

An exception to this are sentences like (a), where to have means 'to give birth'. These data were pointed out to me by Marisa Rivero.

(a) She had the baby without much effort

If you mean possession, the subject NP entity cannot be active in the event, as shown in (b).

(b)*She had the baby with a lot of pleasure

Still the (a)-sentence cannot take the passivize.

(c)*The baby was had without much effort

Chapter VI

RESULTATIVES

6.1. Introduction

In simple transitive constructions, the direct object can, but need not, denote the object of termination of an event. The pie in (1a) is an object of termination. The sugar in (1b) is not.

(1) a He ate the pie

b He ate sugar

If there is a resultative predicate in the verb phrase, the direct object may be the object of termination only, as in (2). The mass noun sugar cannot be in a resultative context because it cannot be an object of termination.

(2) a He ate the pie up

*b He ate sugar up

In this chapter, I analyse the direct object in resultative contexts using Event Structure. In addition, I will define the direct object as the subject of a unit of predication rather than an argument of the main verb. This analysis goes against proposals made for resultatives in Simpson (1983). She uses different semantic notions. In this section I will give the relevant data followed by my own analysis in section 2. In section 3 I criticize Simpson's proposal.

English and Dutch result phrases are part of the verb phrase and follow the direct object.[1] The result phrase may be an adjectival phrase (3), a prepositional phrase (4) or a particle (5). The phrase denotes the state in which the entity denoted by the direct object occurs after being part of the event expressed in the sentence. The b-sentence is the English counterpart of the Dutch a-sentence.

(3) a Hij at zich ziek

b He ate himself sick

(4) a Hij smiet het bord in duigen

b He dashed the dish into smithereens

(5) a Hij dronk het bier op

b He drank the beer up

(6), in addition, is an example of a NP-result phrase in Dutch.

(6) Hij at zich een ongeluk

he ate himself an accident

'He ate himself sick'

The phrase modified by a result phrase need not always be the direct object of a transitive or semi-transitive verb as in (3)-(6). Resultatives can also occur with intransitive verbs. As we saw in chapter 4, their presence in the VP of an intransitive verb may have three different effects. First, the intransitive verb becomes transitive, as in the Dutch (7a) and (8a) and their English counterparts in the b-sentences.

(7)*a Hij liep zijn schoenen

*b He walked his shoes

(8) a Hij liep zijn schoenen kapot

b He walked his shoes to pieces

Secondly, the intransitive verb remains intransitive, as is the case with the unaccusative verbs in (9a) and its English counterpart in (9b).

(9) a De vaas viel kapot

b The vase fell to pieces

Thirdly, the sentence becomes ungrammatical, as is the case with stative verbs, like in (10). (11) is an example of a stative with a direct object and a resultative. (12) contains an example of a stative followed by a resultative without a direct object. Both sentences in (12) have a grammatical reading when the APs are interpreted as describing the state of hanging but not the result of the hanging.

(10) a Dit schilderij hangt aan de muur

b This painting is hanging on the wall

(11)*a Dit schilderij hangt de muur mooi

*b This painting hangs the wall beautiful

(12)*a Dat schilderij hangt mooi

*b That painting is hanging beautiful

The resultative predicate denotes the state in which an entity occurs because of an action performed on it. The relation between this entity, which is denoted by the direct object, and the resultative can be considered a relation of predication.[2] The resultative is the predicate and the direct object the subject of predication. This relation can be expressed in the grammar through coindexing, as has been proposed in Williams (1980).[3] It is not always possible, however, to express this relation in a copula construction. This is shown in (13) and (14). The resultant state of the event of throwing is that the ball is up/op or in the air. The copula construction in (14) that associates this property with a ball is ungrammatical.

(13) a He threw the ball up

b Hij gooide de bal op

(14)*a The ball is up

*b De bal is op

The above data show that there is a difference between both types of predication; i.e. resultative predication and predication in copula constructions. I will explain why this is so in the next section.

6.2 An Analysis In Terms of Event Structure

The notion of Event Structure and the mapping of it onto deep structure explains why resultative predicates find their subject of predication in direct object position. The resultative predicate shows the final state of an event. This state relates to the deep structure direct object only; Event Structure calls this object the object of termination. This explains in a motivated way why this predicate can only have the direct object as its subject of predication in transitive constructions. It also explains why unergative verbs become transitive when subcategorizing a resultative; and why unaccusative verbs remain intransitive in surface structure when followed by a result phrase. These predictions are outlined in (15).

(15)

Event Structure	object of origin	V	object of termination	resultative
trans- itive verbs	he hij	dashed smeet	the dish het bord	into smithereens in duigen
unerg- atives	he hij	walked liep	his shoes zijn schoenen	to pieces kapot
unaccus- atives	the vase de vaas	fell viel	e i e i	to pieces kapot

Stative constructions cannot contain a resultative predicate because they never contain an object of termination, since they do not take place in reality. This explains the ungrammaticality of (12) in the last section.

The phenomena relating to transitive, unaccusative and unergative verbs have also been observed for English in Simpson (1983). The difference between my approach and Simpson's is that I can explain them better using the semantic notion of Event Structure and the mapping of it onto deep structure. Simpson (1983), rather than explaining these phenomena, simply makes this generalization: only the direct object can be the subject of a result phrase. However, it is better to use Event

Structure. Event Structure has to do with much more than resultatives alone; it deals with many other grammatical phenomena too, as I show in other chapters of this thesis.

Simpson goes on to say that a resultative predicate can only be part of a sentence expressing an action that affects the direct object. Perception verbs, for instance, cannot subcategorize a resultative predicate, as is shown in (16) from Simpson (1983). The entity denoted by the direct object in (16) is not affected whatsoever by being part of an event of seeing.

(16)*Medusa saw the hero stone/into stone

In chapter 7 I will use Event Structure to explain this. Meanwhile, it is enough to say that objects of termination must be affected by the event - or as I say, involved. They cannot be unaffected - or non-involved - like the entity denoted by the direct object of perception verbs.

The direct object joins with the result phrase to make a subject-predicate unit. It is easy to see that this relationship is different from that of copula constructions. I have given some data in (13) and (14) in the last section. Some more data are given in (17) and (18) to make this difference clear.

(17) a He wiped the table off

b Hij veegde de tafel af

(18)*a The table is off

*b De tafel is af

(18b) has a grammatical reading but only if it means that the table has been finished after a it has been put together. (18b) cannot mean that

the table is af as in (17b) or wiped off. The situation in (17) and (18) does not always occur. Often the copula counterpart of a resultative relation of predication is grammatical, as shown in (19) and (20).

(19) a He turned the light on

b Hij deed het licht aan

(20) a The light is on

b Het licht is aan

Resultative predicates and predicates in copula are different: the former denote a state that delimits an event; the latter denotes a property. In (20) the light's property is that it can be on or off (in Dutch, aan and uit). But the table in (18) cannot be off or af though it can be clean or dirty. The off or af in (17) only denote the direction of the wiping or the vegen on the table's surface. The particles off and af as such denote the end point of an event like directional PPs or other particles with directional meaning. The state denoted by these particles, as well as the state denoted by the particles on and aan in (19), delimits an event. This means that properties of an entity, as expressed in copula constructions, can delimit an event. When these properties have been brought about the event is finished. Events can be delimited in other ways too. You can refer to the point in space at which it ends. This can be expressed with directional PPs or particles. It may be a bad idea to use the notion of result here (see Bolinger (1971)). It may be better to speak of a predicate of delimitation (of an event) instead of 'resultative predicate'.

Since resultative predicates form a unit of predication with its subject, the direct-object NP can explain another interesting semantic

fact about resultative constructions: the difference in selection restrictions of a verb that subcategorizes or does not subcategorize a resultative predicate. It is easy to understand this phenomenon if you assume that the direct object is not in the same predication unit as its verb. Thus so far, the direct object in resultative constructions is limited semantically by one thing: it is the object of termination of an event. In ordinary transitive constructions, the object of termination is restricted as well by the selection restrictions of the verb. This difference becomes clear in such sentence pairs as in (21).

(21) a [He ate [himself sick]]
 SUBJ PRED SUBJ PRED

 b [He ate the pie]
 SUBJ PRED

2 The changes in selection restrictions of the verb drukken 'to push' in Dutch are easy to explain. Drukken does not allow the direct objects in the a-sentences of (22)-(24). But these objects are possible when a resultative predicate is added, as shown in the b-sentences.

(22)*a Hij drukte de doos

b Hij drukte de doos kapot.

he pushed the box to pieces

'He crushed the box until it came apart'

(23)*a Hij drukte het raam

b Hij drukte het raam in

he pushed the window in

'He pushed against the window until it broke'

(24)*a Hij drukte zijn kleren

b Hij drukte zijn kleren de kast in

he pushed his clothes the closet in

'He squeezed his clothes into the closet'

Transitive drukken without a resultative allows a direct object, but only when the meaning is to print, as in (25). Note that (22a)-(24a) are grammatical, if the verb is interpreted as to print. In this case, the direct object must be the image of the entities they denote - not the entities themselves. In other words, these entities must be printed on paper or something else.

(25) Hij drukte een boek

he pushed a book

'He printed a book'

Yet if you analyze (22b)-(24b) as in (26), the above becomes clear. The verb in (26) is semantically intransitive. The only semantic function of the direct object is to delimit the event as an object of termination.

(26) [Hij drukte [de doos kapot]]

SU PRED SU PRED

[het raam in]

SU PRED

[zijn kleren de kast in]

SU PRED

Intransitive drukken has the same meaning as the verb in (26). This is demonstrated in (27).

(27) Hij drukte op het knopje

'He pushed on the button'

Comparable English data are given in (28)-(30). The verb to talk can only occur with the direct objects in (28)-(30) when a resultative predicate is present.

(28)*a He talked himself

b He talked himself sick

(29)*a He talked her

b He talked her into it

(30)*a He talked that problem with her

b He talked that problem out with her

The meaning of to talk in (28)-(30) is equivalent to the meaning of the intransitive to talk in (31a), but unlike the meaning expressed in (31b).

(31) a He talked about it all day

b He talked mathematics all day

c He talked problems all day

Again, the direct objects in (28)-(30) denote objects of termination that delimit an event but do not denote what comes out of the event. In (31b) and (31c) the direct object does describe what comes out of the event of talking: a conversation about mathematics; and a conversation about problems.

6.3 Simpson's Analysis of Resultatives

The semantic analysis of resultatives in the above section differs from an analysis that looks at resultatives from a different semantic point of view. I have proposed that the direct object in resultative contexts stands for the object of termination. The main verb limits this object semantically in no other way than those I have shown above such as selection restrictions. This may seem counterintuitive if we consider constructions of the type in (32). The only difference between the two sentences is that one has a resultative predicate, the other does not. (I will give mainly English data in this section assuming that Dutch has comparable phenomena).

(32) a He wrote the speech

b He wrote the speech down

In (32a) and (32b), the direct object NP denotes the object of termination; but in (32b) this object is in a different unit of predication from the verb. This means that the direct object in (32b) is not restricted by the selection restrictions of the verb: that is why so many direct objects are possible in resultative environments but not in ordinary transitive constructions (see (33)).

(33) a He wrote himself sick

b He wrote his pen to pieces

Still the direct object in (32b) looks like an ordinary direct object; so why give a different semantic analysis for this sentence?

Simpson (1983) assumes that there are two different types of resultatives: one with an ordinary direct object as in (32b) and one where the direct object is not an argument of the verb, as in (33). However, there are some arguments against such a move.

First, there is the argument of semantic generalization. From the point of view of semantic generalization, there is nothing against saying that the direct object in (32b) is like the direct objects in (33); namely, an object of termination that is not semantically selected by the verb. You may object that this is not the complete semantic description of the sentence in (32b), because this sentence also means that the speech is "written". But this is not true as I explain below.

Here again we see two different ways of studying semantics and how they are different. One aims at giving a "full" semantic description of natural language; the other considers semantic primitives that are relevant to the grammatical system. I follow the latter path, as I have outlined in chapter 1. Thus, I do not aim at giving a complete description of the semantics covered by a sentence, whatever this semantics may be. Rather, I aim to describe features of sentences that both have to do with semantics and show up in the language's system of grammar. When going for the broadest level of generalization that is made possible on the base of the grammar of a language we have to ignore a lot of semantic factors that do not find their reflexion in the grammatical system. For instance, we have looked at the stative and nonstative subject when we analyzed subject-semantics, but not at things.

like animacy, agentivity etc. These semantic notions do not show up in the grammatical system of Dutch and English - at least not in the phenomena studied in this thesis. With many resultatives, the only way to analyze the direct object is to assume that its semantics is limited only by Event Structure but not by the verb. The only important semantic factor is whether it can denote an object of termination of the event expressed in the sentence. This does not imply, of course, that any object may delimit any event. In fact the possibilities in this domain are quite limited since all objects of termination must be affected by the event they are part of, even if they do not show up in resultative contexts. I will get back to this problem in the next chapter, to look at how it relates to verb classes.

The only difference between nonresultative and resultative contexts is that the verb in the former imposes its selection restrictions on the direct object - the latter does not. You can analyze all resultatives this way, as long as there are no grammatical differences between them. It can be imagined that one type of resultative cannot, but another type can passivize. That this is not the case is shown in (34). (34a) is the passive of a resultative whose original direct object could be considered selected by the verb; (34b) is a sentence where this seems less likely.

(34) a The speech was written down by the minister

b Mary has been danced tired by her boyfriend

The verb to write illustrates on the differences between resultative and nonresultative contexts. When it is not accompanied by a resultative predicate as in (35a), the direct object of this verb can only be

an object created by the subject NP he by a writing event.[4] When the resultative predicate down is added to the verb, it does not mean that the object of writing is created by this entity. It may be that the he copies the comments by writing them down.

(35) a He wrote my comments

b He wrote my comments down

The semantic relation between the verb and its direct object is looser in (35b) than in (35a). This can be explained if the direct object in (35a) is an object of creation as well as an object of termination. The direct object in (35b) is only an object of termination. Note that it is not even implied in (35b) that "the comments are written", because this would mean that they are created during the writing event. The interpretation of (35b) using Event Structure is that a writing event that has originated in an entity denoted by he ends when the comments are "down" (i.e. on paper). The data in (35) show that it is a bad idea to give the direct object two θ -roles in a resultative context. In an approach that takes predication into account such as Williams (1980) both the predicate down and the main verb assign θ -roles. The θ -role assigned by the main verb is similar to the one assigned to the direct object when it is not accompanied by a resultative predicate. This means that the semantic content of this role implies that the object of action is an object of creation. The θ -role assigned by the predicate down will also limit the number of direct objects or subjects of predication possible. This contradicts the basic observation made throughout this chapter that there are fewer semantic restrictions on the direct object in resultative contexts than in contexts without a resultative predi-

cate. But if you assign two θ -roles to the direct object in sentences like (35b), the object is limited by factors semantics cannot explain.

[1]

Result phrases in English have been dealt with in Green (1972), Green (1975), Jespersen (1940) V(18-38), Rivière (1982), Simpson (1983) and Wyss (1975), among others.

[2]

A similar analysis is presented for English in Jespersen (1940), V(18-30), where the subject-predicate unit is called a nexus.

[3]

From a much different domain of grammar, anaphora binding, comes more evidence supporting the view that resultatives are part of a larger unit of predication that includes the NP in direct object position. As is well-known, directional PPs in Dutch and English behave differently with respect to anaphor binding from other PPs. The pronoun occurring inside a directional PP in English can be bound by the subject NP in (a). Dutch allows the use of the reflexive zich (b) instead of the anaphor zichzelf which occurs in subcategorized PPs.

(a) He _i pushed her away from him _i

(b) Hij _i duwde haar van zich _i af

In English a personal pronoun can never be bound by the subject NP in the same sentence if it is in a subcategorized PP. Instead you must use the reflexive, as in (c). The anaphor zich never occurs in subcategorized PPs in Dutch, but the reflexive zichzelf is used. This is shown in (d).

(c) He _i talked about himself _i / *him _i

(d) Hij praatte over zichzelf /*zich

Directional PPs do allow the reflexive pronoun himself in English and the reflexive pronoun zichzelf in Dutch, but I do not exclude dialectal variation here.

(e) He pushed her away from himself

(f) Hij duwde haar van zichzelf af

I have given an explanation for the data in (b) and (d) in Voorst (1983). Here I have analyzed the subject-predicate unit, in which a directional PP is in the predicate position as a small clause. English data as in (a) are discussed in Williams (1980) and Pustejovsky (1985). Williams (1980) replaces the notion of small clause by a system of coindexing, while Pustejovsky (1985) makes use of the notion of predicative domain.

[4]

The semantic restrictions on the direct object of transitive constructions without a resultative predicate are complicated and need more research. The following differences between Dutch and English show this. A Dutch transitive construction with the verb schieten always implies a hunting event (a). A sentence with a direct object that denotes a human being gets the funny interpretation that the human being is hunted (b).

(a) Hij schoot het hert

'He shot the deer'

(b) Hij schoot zijn buurvrouw

'He shot his neighbour'

In English this is not the case. Although (a)'s counterpart (c) may

imply a hunting event, this is not necessarily so for (b)'s counterpart (d).

(c) He shot the deer

(d) He shot his neighbour

Dutch trappen and English kick are examples of the same phenomenon.

Dutch allows a direct object that denotes an animate entity or a ball as English, but not one that denotes an object like a wall.

(f), (h) and (j) are the counterparts of (e), (g) and (i).

(e) Hij trapte zijn hond

(f) He kicked his dog.

(g) Hij trapte de bal

(h) He kicked the ball

(i) *Hij trapte de muur

(j) He kicked the wall

The difference between the Dutch and the English data is that the entity denoted by the Dutch direct object needs to be part of a process defined by the human mind. A hunting event is such a process, as well as the kicking of a dog. This is a process of communication and the kicking of a ball, itself part of a process called 'a game'. English does not have this restriction, so it allows (d) without the funny interpretation Dutch (b) has and it allows (j), an act that is neither an ingredient of a process of communication nor part of a game. The object NP of the transitive write in (35a), which is repeated in (k), is restricted in the same way: it denotes the product of a mental process of creation, as defined by the human mind.

(k) He wrote my comments

These observations are only useful to a semantic description if we can fit them into a semantic theory. I shall not deal with this in my thesis, yet I do have a suggestion here: restrictions on the Dutch and English direct object NP modify an involvement pattern. The direct object NP of action verbs is marked as [+involved] as we will see in chapter 7. The nature of this involvement is now defined differently in English and in Dutch.

Chapter VII

INVOLVEMENT

7.1 Introduction

Using the mapping relation between Event Structure and deep structure, it is possible to describe the subject and the direct object NP semantically. The subject denotes the object of actualization in English, the object of origin in Dutch. The direct object can denote the object of termination in both languages. Stative constructions contain neither an object of origin nor an object of actualization. Nor do they contain an object of termination. As has been noted in earlier chapters, not all direct objects can be described semantically using Event Structure. The direct object in nonaccomplishment constructions as in (1) does not denote an object of termination.

(1) a He drove a Chevy around the city

b He saw Peter downtown

In this chapter, I will describe this direct object with a system of semantic description that uses the notion of involvement. This system describes the direct object in nonaccomplishment constructions; the subject NP; and other direct object NPs. But it describes them in a way that is different from the way Event Structure describes them. Involvement Semantics agrees in part with the semantics of Event Structure. Event Structure specifies the location of the object of origin or

actualization and the location of the object of termination. Involvement Semantics specifies where the event is actually taking place or where it is located. An event is located in those entities that are fully involved in it.

The relevance to the grammar of Involvement Semantics needs to be shown using independent evidence, as has been done for the notion of Event Structure. I will do so in this chapter. After introducing the semantic system of involvement in section 2, I will show how it predicts two types of intransitivization. These are unergative intransitivization, discussed in section 3 and unaccusative intransitivization, discussed in section 4. The semantic system of involvement can also explain why certain verbs allow an accomplishment reading while others do not. This will be shown in section 5. I will close off this section by giving an example of a semantic analysis that uses a notion comparable to the notion of involvement. This is Saksena's (1980) analysis of case markings in Hindi. I will use mainly English data in this chapter, assuming that similar phenomena can be found in Dutch. Where Dutch and English diverge I will give data from both languages.

7.2 The Semantics of Involvement

States and events are distinguished in this thesis as follows: events take place in reality, which means that the entities that take part in the event, are involved in it. These are the entities denoted by the subject and the direct object NP. States do not take place: they are a predication of a property over the subject NP. This difference can be demonstrated by using adverbs showing how the entities

denoted by the subject and/or direct object NP are involved in it. An example of this is given in (2). The adverb denoting the way the subject is involved in an event causes ungrammaticality in the stative (2b) but not in the nonstative (2a).

(2) a He realized these things with a lot of pleasure

*b He knew these things with a lot of pleasure:

Involvement is more complicated, however, than I have assumed up to here. It is not always true that both the entities denoted by the subject and the direct object NP are involved in an event. For instance, the entity denoted by the direct object of perception verbs is not involved in the event of perceiving it. In (3) there is nothing that this entity to do that relates to the seeing of it: it only needs to be visible to the perceiver.

(3) a He saw Peter on the bridge

b He saw the rock

c He saw the light in the room

The same is true of hear. The object heard in (4) needs to produce some noise to be heard. But this noise does not come about because this entity is part of hearing event. The noise is there anyway and it can be perceived consequently.

(4) a He heard the car

b He heard the leafs of the tree

c He heard the explosion

So again, the object perceived is not really involved in an event of perception. It is perceived, but it does not make itself perceivable. Neither is it affected by being perceived.

Another observation one can make about involvement: some verbs allow us to make inferences about the nature of the involvement of the entity denoted by their subject NP or direct object NP; others do not. The entity denoted by the subject NP of perception verbs in (3) and (4) is obviously involved through the physical and mental processes taking place in its head. These are either the process of seeing or of hearing. The involvement of the entity denoted by the subject NP of causative verbs as in (5), however, is very difficult to describe.

(5) a He broke the vase

b He tore the newspaper

(5a) and (5b) say nothing about the entity denoted by the subject NP has to do to break or tear an object. In one extreme case, this entity would hardly be involved. It may, for instance, simply pass by and step on a vase or a newspaper and break or tear it. In Event Structure, we can say only that it is the object of actualization of the event in English. Very little can be said about its actions and its involvement (i.e. the role it plays in the event). In another extreme case, the entity denoted by the subject NP may really work on breaking or tearing an object by acting in certain ways. Note that the meaning of the verb still does not tell us what kind of actions these are. The meaning of the constructions in (5) thus do not allow us to make clear inferences about the nature of the activity of the entity denoted by the subject NP. But this is not the case for (3) and (4) where the entity denoted by the subject NP can only be involved as a "seer" or a "hearer".

You can find out how the entity denoted by the subject NP is involved in the event if the verb is a perception verb. However, you

cannot find out how the entity denoted by the direct object NP is involved in such an event. With causative verbs the opposite happens. Here it is unclear how the entity denoted by the subject NP is involved in the event; but it is clear how the entity denoted by the direct object is involved in it. It is clear what happens to the latter entity: it breaks or tears. The above two types of verbs allow inferences about only one of their subject and direct object arguments. With still other verbs, it is possible to make inferences about the involvement of both the entity denoted by the subject NP and the one denoted by the direct object NP. To eat and to throw in (6) are examples of verbs of this type.

(6) a He ate a carrot

b He threw the ball

In (6a), it is clear how the carrot and he are involved. The entity he does all the actions necessary to perform the eating and the carrot undergoes all the effects of this action - it is chewed to pieces and ingurgitated. In (6b), the entity denoted by the subject NP acts by moving his arm etc. to throw: the ball is lifted consequently and travels through the air as a result.

The above remarks on involvement can be formalized using the binary feature [+involvement] or [-involvement]. The notion of involvement is defined in (7).

(7)

An NP is marked [+involved] when the meaning of the verb allows you to make clear inferences about the way in which the entity denoted by it is involved; in all other cases the [-involved]-feature is assigned.

Subject NPs and direct object NPs are marked as either [+involved] or [-involved]. This leads to the following four classes of transitive, and two classes of intransitive, verbs.

(8)	NP-	V	NP	NP	V	
a)	+	eat	+	e)	+	laugh
b)	+	see	-	f)	-	stink
c)	-	break	+			
d)	-	have	-			

When there is at least one 'involved' NP we are dealing with an event. This is the case in (8a)-(8c) and in (8e). When no 'involved' NP is present at all, the construction is stative, as in (8d) and (8f). The above implies that the definition of events needs to be made more specific as follows:

(9)

An event takes place in reality and at least one entity that makes up its structure (i.e. the subject NP or the direct object NP) is marked as [+involved].

The notion of involvement gives the location of an event. The event of eating in (8a) is located in the eater and the object eaten. A perception event, as in (8b), is only located in the perceiver. The event of breaking in (8c) is only located in the object that breaks and the event of laughing in (8e) is located in the person that laughs. This insight is important, as it makes it possible to relate semantically Event Structure and the system of Involvement. Both semantic primitives tell us something about the spatial nature of the event. Event Structure

specifies the location of the origin or actualization and of the termination of the event. Involvement Semantics specifies where the event is actually taking place or where it is located.

(8) shares some features with Vendler's (1967) verb typology: (8a) and (8e) contain the action verbs; (8b) the achievements; (8c) the accomplishments; (8d) and (8b) the stative verbs. But there are two important differences between (8) and Vendler's typology. First, not all verbs with the patterns in (8a) and (8e) are action verbs. An intransitive verb like to sleep - a verb with (8e)'s pattern² does not denote an action but a physical activity of a person that sleeps. Despite this incongruence, I will go on using the term 'action verb' for convenience. Secondly, you can express accomplishment with verbs not covered by (8c). Action verbs in (8a) can express accomplishment as well. But they are still different from the verbs of the category (8c) - their subject and direct object NP are both marked as [+involved]. My approach takes this into account: it separates accomplishment - a notion in Event Structure - from involvement. In terms of Event Structure, verbs of the category in (8a) may or may not occur in accomplishment constructions and verbs of the category in (8c) always occur in accomplishment constructions. In terms of Involvement Semantics, the action verbs in (8a) have two involved NPs. The class of verbs in (8c) only one.

The separation of the semantic domain of Involvement and of Event Structure is motivated by the fact that each of these primitives makes predictions the other cannot make. Event Structure, as we saw, predicts the semantics of subject selection; tells us where we will find unaccusative constructions; and where we can use the passive for all verb

categories in (8) - not just for the accomplishment verbs. These phenomena do not follow from (8). Subjects of nonstative verbs may be marked as [+involved], i.e. (8a), (8b) and (8e) or [-involved], i.e. (8c). The direct objects of nonstative verbs may be [+involved] as in (8a) and (8c) or [-involved] as in (8b). This means that 'Involvement' cannot predict which one of the two arguments of a transitive verb will be the subject NP. I argued that unaccusativity and passive hang together with Event Structure. The notions contained in Event Structure are not predictable on the base of (8). Origins or actualizers may be [+involved] or [-involved] and objects of termination may only be [+involved], as we will see in section 5 of this chapter. But not all [+involved] direct objects are objects of termination. This is the case with the action verbs; they do not have to express accomplishment. To avoid confusion, I will call verbs of the category in (8c) 'causative' verbs, not 'accomplishment' verbs. The subject of these verbs denotes the object of origin or actualization only. Action verbs tell us more about how the entity denoted by the subject NP is involved in the event. This means that it also tells us more about the nature of the origin or the actualization of the event.

It is interesting that a more philosophical analysis of agency and causation as in Vendler (1984), can be easily fitted into the system of Involvement Semantics. Vendler says that actions are done and not caused by something. Events, in turn, can be caused by actions. Under Vendler defines events as changes of state. An action may cause a vase to break; but an action cannot cause an arm to rise - this is something done by the actor. There is a strictly linguistic explanation for this

difference. The subject of action verbs is marked as [+involved] and as such it is clearly part of the event expressed by the sentence. The subject of causative verbs is marked as [-involved]. Consequently, it stands for the object of origin or actualization of the event only. Involvement Semantics does not exclude the interpretation that the involvement of this entity in another event or, more specifically, in an action, functions as the origin or actualization. Involvement Semantics predicts this, albeit in a round about way: you may wonder how an entity can be the object of origin or, actualization, of an event, if at best it plays only a marginal role in it. This can only be if it is involved in another event and does something or has something happening to it, rather than when it just sits around statically.

In Davidson (1971), activity and causative verbs are distinguished in a different way. Certain verbs can only be considered actions after we know more about them than what the verb tells us. But other verbs let us know right away whether they are an action verb or not. For something to be called an action under Davidson's approach, it is necessary that the agent does something intentionally. When somebody sinks a boat, this is an action when done in a planned way, but it is not when done through the pushing of a button, because of falling on it, with the result that a torpedo is fired that sinks the boat. Drinking cannot be done unintentionally. An agent may drink coffee instead of tea unintentionally, still he is performing the action of drinking intentionally. This dichotomy in terms of intentionality matches our distinction between causatives and activities. Causatives do not tell us whether an intended action is involved or not; activities always imply an intended

action, although this action may have an unintended outcome. Causatives sometimes imply an intended act. Yet even if they do, there is no reason to consider them activities in my system of Involvement. I categorize causative verbs differently because they do allow for this ambiguity, while activity verbs do not. Even when causatives have a subject denoting an agent that acts intentionally, their behaviour with respect to different grammatical phenomena does not change. For example, they do not allow unaccusative intransitivization; when the subject is an agent in Davidson's terms nor do they allow this rule when it is a mere causer.

7.3 Unergative Intransitivization

In this section I will talk about unergative intransitivization. An example of this is the alternation between the transitive and intransitive verbs in (10) and (11).

(10) a He was drinking beer

b He was drinking

(11) a They were reading a book

b They were reading

The semantic system of involvement predicts that only verbs with the involvement pattern in (12) can undergo unergative intransitivization.

(12)	NP	→	V	NP
	+inv			+inv
			eat	
			drink	
			read	

Perception verbs like the one in (13), causative verbs like in the one in (14), and stative verbs like the one in (15) cannot be intransitivized.

(13) a He felt the wind in his hair
+inv -inv

*b He felt

(14) a He broke the glass
-inv +inv

*b He broke (i.e. an object)

(15) a The painting dominated the whole room
-inv -inv

*b The painting dominated

When the verbs in (13)-(15) take on a different meaning, they can be intransitivized or else they can have an intransitive counterpart with the same meaning (16b). In that case the involvement pattern is like that of verbs such as to eat; that is verbs of group (12). The counterparts of (13)-(15) having a different involvement pattern are given in (16)-(18).

(16) a He felt my arm
+inv +inv

b He was feeling about
+inv

(17) a He broke his relation with her
+inv +inv

b He broke with her
+inv

(18) a The big guy dominated the whole group
+inv +inv

b The big guy dominated
+inv

The verb meaning tells us in which way the entities denoted by the subject NP in (16)-(18) are involved. In (16), the entity denoted by he is actively involved in an action of feeling unlike. In (13), he does not, since we have a perception verb. In (17), the entity denoted by the subject NP is actively involved in breaking up a relation. The sentence does not imply that he can just do anything which can have the effect of the "breaking" coming about, like in (14). The subject NP in (17) is more than a causer - it is an entity that is actively making some mental. In (18), the involvement of the entity denoted by he is easy to determine as well. This entity performs certain acts which lead to its domination over a group of persons. This entity cannot just do anything to dominate this group like passing by on a sidewalk, without being further involved. In (15), dominate is used statively and no involvement is implied whatsoever, only a relation between two objects. (18) also has a stative interpretation, but here intransitivization is not possible.

The entities denoted by the direct objects in (16)-(18) are involved as follows. In (16) this entity is acted upon by being touched, but not in (13). In (17), this entity is broken as in (13). In (18) this entity undergoes the effects of the domination, unlike in (15) where no involvement is implied.

It is quite common to consider intransitivization a process that depends on the lexical idiosyncracies of transitive verbs. This is implicit in studies done within the Lexical Functional Grammar Framework such as Bresnan (1982), which was discussed in chapter 1. My approach does not predict unergative intransitivization using verb idiosyncracies. Rather, it uses the semantics of transitive constructions to do

so. However, this is only possible if we use a system of semantic description based on the notion of involvement.

7.4 Unaccusative Intransitivization

By unaccusative intransitivization, I mean the change of verbs in (19) and (20) from transitive to intransitive.

(19) a He opened the door

b The door opened

(20) a He tore his shirt

b His shirt tore

Both Perlmutter (1978) and Marantz (1981) use this change to motivate unaccusativity. But in chapter 4 I argued that Event Structure is at the base of unaccusativity, not the agent-patient alternation in subject-position of these sentence pairs. The intransitive verbs in (19) and (20) are unaccusative because they are accomplishments, not because they have patient subjects. The aspect of the alternation in (19) and (20) that I wish to consider in this section is its predictability when using Involvement Semantics.

The prediction is that unaccusative intransitivization is only possible with verbs that have an involvement pattern as in (21). This is the pattern of causative verbs.

(21)	NP	V	NP
	-inv	break	+inv
		tear	
		explode	

Verbs other than the ones represented by (21) cannot undergo this type of intransitivization, as in (22)-(24).

(22) a Mary saw the museum of modern art
+inv -inv

*b The museum of modern art saw
-inv

(23) a Martha was reading the newspaper
+inv +inv

*b The newspaper was reading

(24) a He had a headache
+inv -inv

*b A headache had

Sometimes verbs with the involvement pattern of (21) occur with a different pattern. This is often the pattern of action verbs. Unaccusative intransitivization is not possible in these cases. Two examples are given in (25) and (26).

(25) a He opened the cardgame
+inv +inv

*b The cardgame opened

(26) a That row of trees breaks the wind
+inv +inv

*b The wind breaks.

The entity denoted by the subject NP in (25) needs to do a few well defined acts in order to open a cardgame. He cannot just do anything to cause the game to start. In (26) some well defined properties of the row of trees make the wind change direction. It is not just some indefinite cause that is at the base of this. Unaccusative intransitivization is impossible in both cases because the constructions do not exhibit the right involvement pattern. Only a verb with a [-involved]

subject and a [+involved] direct object allows this type of intransitivization. The verbs in (25) and (26) have counterparts that do allow unaccusative intransitivization. But their subject NPs are [-involved] because it can take on any role to be a cause or the object of origin or actualization of the event expressed in the construction.

(27) a He opened the box

b The box opened

(28) a He broke the plank

b The plank broke

The entity denoted by the subject NP in (27a) and (28a) can act and open or break objects using his hands. The sentences, however, may also denote situations in which the entity denoted by the subject NP in (27a) simply throws over a box with the result that it opens, or in (28a) simply steps on a plank in passing by and break it. Every type of "action" is allowed as long as it can be the cause or the origin or actualization of the event described in the sentences.

Unaccusative like unergative intransitivization is predictable on the base of Involvement Semantics. This means that it is not necessary to take refuge to lexical specification in the lexicon of this alternation. It is only necessary to take into account the semantics of the constructions at hand in terms of involvement.[1]

7.5 Achievement Verbs

Involvement Semantics can explain why achievement verbs never allow an accomplishment reading. We saw in section 1 that action verbs allow an accomplishment reading optionally and that causative verbs always

have an accomplishment reading. The latter two verb classes share an important feature: the direct object of both is marked [+involved], as in (29a) and (29b). The involvement pattern of achievement verbs, such as (29c) contains a [-involved] direct object.

(29) a Jerry wrote a poem
+inv +inv

b He sank the boat
-inv +inv

c He heard the sonata
+inv -inv

The direct object in constructions expressing accomplishment denotes the object of termination. This object identifies the termination of the event. In (30a) the event is over when all the beer has been drunk. In (30b) the event is over when the bomb has exploded.

(30) a He drank the beer

b He exploded the bomb

In (30a) and (30b), the entity denoted by the subject NP starts the action and directs it towards the entity denoted by the direct object NP. The event denoted by achievement verbs does not imply such a directionality. The entities denoted by the subject NPs in (31) are all objects of origin. Nothing happens, however, to the entity denoted by the direct object.

(31) a He found the house

b He heard Jane's new record

c He reached the top of the hill

Nothing happens to the house in (31a). The event of finding consists of he setting up a relationship to the house. In other words, the event is mental, not physical. The same can be said about (31b). Nothing hap-

pens to the sounds of the record - these sounds do not create a hearing event. Rather, the event originates in the head of the subject he; it allows him to notice sounds. Neither does 'reaching a certain place in (31c) imply that something happens to this place. Again we have an entity that sets up a relationship with the object - here a place.

One result of the semantic differences between achievement verbs, action verbs and causative verbs is that they do not allow ergative and unaccusative intransitivization. This is demonstrated in (32) and in (33).

(32)*a He found

*b He heard

*c He reached

(33)*a The house found

*b Jane's new record heard

*c The top of the hill reached

The events denoted by (31a)-(31c) are not directed towards the entity of the direct object NP. This implies that this entity does not tell us when the event finishes - the status of the direct object NP as [-involved] stops it from being an object of termination. And this also explains Simpson's observation that achievements cannot occur in resultative context (see chapter 6 section 2). Now if an achievement verb takes a resultative predicate, it loses its achievement status and gets the reading of an action verb. The resultative predicate can only be predicated over an object of termination marked [+involved]. When a resultative predicate is added the involvement pattern of achievement verbs changes, as in (34).

(34) a + -

b + + Resultative Predicate

Examples of this change in meaning are given in (35). All constructions in (35) imply some mental and physical activity undertaken by the subject NP. This activity is directed towards the entity denoted by the direct object NP. In short, these constructions are no longer 'pure achievers'.

(35) a He found her nice

b He heard him out

c He reached his hand out to her

(35a) denotes a mental act: assigning a property to something; (35b) denotes the act of listening; (35c) goes further. It shows the role of he and his hand in the event; thus it is more than just an achievement. (34) explains another phenomena: an achievement verb combined with a resultative predicate will never end up having the involvement pattern of causative verbs like to break etc. These verbs have a [-involved] subject, but achievement verbs have a [+involved] subject to start out with. If we assume that nothing changes in the derivation in (34), except for the feature of the direct object, only (34b) can be the outcome, which is the pattern of action verbs.

7.6 "The Affected Agent"

The system of Involvement Semantics developed in this chapter grows out of the way states and events are defined in this thesis - that is, Event Structure definitions of state and events. Nothing can take part in a state. But something must take part in an event (section 7.1). The

notion of involvement includes the notion of affectedness. This notion is used in Saksena (1980) to explain the semantics of embedded subject case marking in Hindi causative constructions. Saksena's point of view is as follows: "the semantic properties of affected agents serve to indicate what the GRAMMAR considers relevant to the semantics affected" (page 822, note 5). Thus he makes a subtle distinction between semantic aspects relevant to grammar and those that are not. In this way, Saksena's approach follows in the footsteps of other semantic analyses of case marking systems such as those I spoke of in chapter 1: Wüllner (1835), Hjelmslev (1935) and Jakobson (1936). Saksena's approach also agrees with my own, which aims at finding semantic primitives that are relevant to grammar, or that tie in with grammatical phenomena. In this section I will discuss Saksena's proposals to show how Involvement Semantics can be applied. Indeed, these proposals helped inspire my ideas on involvement.

Causees in causative constructions in Hindi are marked by the dative/accusative morpheme -koo or by the instrumental -see. The causee in the causative (36b) of (36a) needs -koo; the causee in the causative (37b) of (37a) needs the -seemorpheme. D/A stands for dative/accusative; DC stands for direct causative suffix and IC for indirect causative.

(36) a raam-nee khaanaa khaa-yaa

Ram-AGT food eat-PAST

'Ram ate dinner'

b māi-nee raam-koo/*see khaanaa khil-aa-yaa

I-AGT Ram-D/A food eat-DC-PAST

'I fed Ram'

(37) a raam-nee peer kaat-aa

Ram-AGT tree cut-PAST

'Ram cut the tree'

b māi-nee raam-see/*koo peer kat-

I-AGT Ram tree cut-

aa-yaa

DC-PAST(m.)

Saksena argues that case role notions such as agent, patient etc. cannot explain the semantic differences behind each of these case markings. Thus he introduces a new notion to explain them, affectedness. The morpheme -koo always marks NPs that are affected by the verb activity in an event. The indirect object in (38a), the patient in (38b) and the experiencer in (38c) are all governed by this rule.

(38) a māi-nee siitaa-koo santaraa di-yaa

I-AGT Sita-D/A orange give-PAST(m.)

'I gave Sita an orange'

b māi-nee siitaa-koo piit-aa

I-AGT Sita-D/A beat-PAST(m.)

'I beat Sita'

c raam-koo gussaa aayaa

Ram-D/A anger come-PAST(m.)

'Anger came to Ram (=Ram got angry)'

When the NP does not denote an affected entity another case morpheme is selected, such as -nee in (39). (39) forms a minimal pair with (38c) through the subject's + or -affectedness.

(39) raam-nee gussaa kiy-aa

Ram-D/A anger do-PAST(m.)

'Ram showed anger' (without necessarily experiencing it)

Yet just because the morpheme -see is present does not mean that you are dealing with affectedness. In (40), the causee agent 'Ram' can take either -see and the -koo. Saksena states that the -koo morpheme implies that the aim is to get the causee agent to read the book. The -see morpheme, however, implies that the aim is to get the book read. Here the causee agent is just an instrument towards that end.

(40) māi-nee raam-see/koo kitaab parh-vaa-ii

I-AGT Ram book read-IC-PAST(f.)

'I had Ram read the book'

The notion of affectedness is like the notion of involvement: no affectedness means no involvement; if there is affectedness, then there must be involvement. Affectedness produces the same four verb classes produced by the notion of involvement. Moreover, it is easier to find out whether an NP is [+involved], [-involved] or affected if we set aside the event, and look at the verb meaning alone. The system of Involvement Semantics is repeated in (41).

(41)	NP	V	NP	NP	V
a	-inv	break	+inv	e +inv	eat
b	+inv	eat	+inv	f -inv	stink
c	+inv	see	-inv		
d	-inv	have	-inv		

The subject NP of the causative verb in (41a) is marked with the |-| because it is not affected by an event of breaking. The breaking only affects the entity denoted by the direct object or you can also say that the verb meaning only applies to this entity. In case of eating in (41b) both the eater and the object are affected; in (41e) the eater is affected. The eater does the eating so is affected by his own actions; the object eaten is chewed etc. and affected as well. Perceptions, as in (41c), never imply that the entity denoted by the direct object is affected. The seeing only happens in the entity denoted by the subject NP. Stative constructions as in (41d) and (41f) do not imply affectedness neither in the entity denoted by the subject NP nor the entity denoted by the direct object NP.

Now Saksena found that unergative intransitivization (or unspecified object deletion) groups verbs as I just have done. The verbs with

affected or involved agents can undergo this rule (42a); the verbs with nonaffected agents or noninvolved causers in our terms cannot (42b).

(42) a māī-nee raam-koo paath/0 parh-vaa-yaa

I-AGT Ram-D/A lesson read-IC-PAST

'I had Ram read (the lesson)'

b māī-nee raam-see peer/*0 kat-vaa-yaa

I-AGT Ram-INST tree cut-IC-PAST

'I had Ram cut the tree'

The morphological distinction made with case marking between affected (involved) and nonaffected (noninvolved) subjects only occurs in the embedded subject position of causative constructions in Hindi. However, the semantic primitive can also tell us about the grammar of noncausative constructions, because it can predict unergative intransitivization in Hindi as in English and Dutch. Causative verbs that have a [-involved] or [-affected] subject do not allow unergative intransitivization while action verbs do. This is demonstrated in (43). Both subjects in (43) have the same case marking.

(43) a Raam-nee peer/*0 kaat-aa

Ram-AGT tree cut-PAST

'Ram cut the tree'

b Raam-nee paath/0 parh-aa

Ram-AGT lesson read-PAST

'Ram read (the lesson)'

Saksena remarks that all Hindi sentences (transitive or intransitive) must contain an affected role. Thus all constructions expressing events in Hindi need at least one affected (or involved) NP, which

agrees with the definition of event in (9) of this chapter. Saksena's generalization may imply that Hindi has no stative constructions. But our redefined generalization does not exclude this. So it is possible to use the system of involvement in (41) in a parametrized way to predict which type of meanings can be realized in transitive and intransitive constructions in particular languages. Involvement Semantics belongs to Universal Grammar as the primitives describing tense interpretations of sentences do. I will discuss this in the next section. Yet if all sentences in a language must contain an affected role (I include here only the subject NP and the direct object NP as in (41)) it cannot have stative transitive (41d) and stative intransitive constructions (41f). And if a language cannot have [-involved] direct objects, it cannot have transitive achievement verbs (41c) and transitive statives (41d). Perhaps this language allows only transitive accomplishments that need a [+involved] direct object, as in section 7.5. Unfortunately, I have not researched different languages to check this type of parametrizing of the semantics of transitive and intransitive constructions, so I will not go on theorizing on this issue.

[1]

The system of Involvement Semantics can be used to single out those verb classes that may from the ones that may not intransitivize. It has not been explained why certain verb classes allow unaccusative or unergative intransitivization and others do not. Unfortunately, I have not been able to find a solution for this important issue.

Chapter VIII

TENSE

8.1 Introduction

Reichenbach (1947) develops a framework describing the tense interpretations of sentences. This framework contains the three primitives E, event, R, point of reference and S, moment of speech. Hornstein (1981) compares this approach to two other descriptions of tense structures. These are the ones supported by Generative Semantics and logic. Hornstein proposes some minor changes to Reichenbach's system. Moreover, he describes the relation between time adverbs and tense structure. This I will discuss below. Bouchard (1984) refines Reichenbach's ideas using French data.

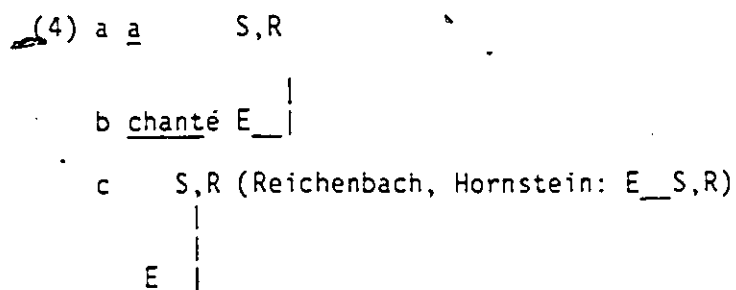
Reichenbach describes tense structures as follows. The three primitives E, S and R can, but need not, be associated. When associated they occur at the same moment in time. Their order shows their sequence on a time line. The three sentences in (1a)-(1c) have the tense structure given in (2a)-(2c).

- (1) a John ate the cake
- b John had eaten the cake
- c John will have eaten the cake
- (2) a E,R--S
- b E--R--S
- c S--E--R

The past tense in (1a) is an event that is associated to a reference point (which it precedes, yet unassociated to the moment of speech that follows both the event and the reference point. The past perfect in (2b) is an event preceding a reference point but unassociated to it. The reference point precede the moment of speech to which it is not associated either. Future perfect is an unassociated S, E and R in the order of (2c). Bouchard (1984) uses the same primitives but his tense structures are not projected onto sentence as in Reichenbach (1947). Rather, they are projected on individual verbs, each representing a subpart of tense structure. These subparts are associated, as in (4) - the tense structure of the French present perfect in (3). This approach brings tense structures closer to their realization in syntax.

(3) Elle a chanté

The auxiliary verb has the tense structure of the simple present without the E, as in (4a). (4b) shows the tense structure of the past participle; its event precedes a reference point. The two tense structures are combined as in (4c).



The English tense structures are in (5), taken from Reichenbach (1947). Those in the first row represent the tenses in the second and third row. Those are the terms and structures that I will use in this chapter.

(5)

Structure	Reichenbach	Traditional Name
a E_R_S	Anterior Past	Past Perfect
b E,R_S	Simple Past	Simple Past
c R_E_S		
d R_S,E	Posterior Past	----
e R_S_E		
f E_S,R	Anterior Present	Present Perfect
g S,R,E	Simple Present	Simple Present
h S,R_E	Posterior Present	----
i S_E_R		
j S,E_R	Anterior Future	Future Perfect
k E_S_R		
l S_R,E	Simple Future	Simple Future
m S_R_E	Posterior Future	

The English examples of these structures in (6) are from Bouchard (1984).

(6) a John had gone

b John went

c,d,e I did know that John would go

f John has left the team

g John eats a lot

h John will go when he feels like it

i,j,k John will have left

l John will go tomorrow

m I will be going to see him

Hornstein (1981) proposes the following way to incorporate time adverbs into these structures. Sentence (7) is represented as in (8), which simply states that the E(vent) took place at 10 o'clock somewhere in the past.

(7) John left the house at 10 o'clock

(8) E, R__S
 |
 10 o'clock

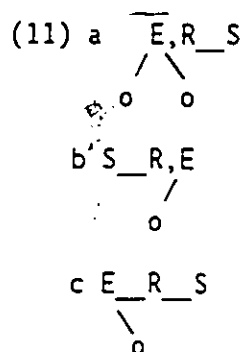
Time adverbs can also relate to the reference point. The past perfect in (9) has two readings, as in (10): the secretary either left the room at 3 o'clock or she had already left the room at this point in time. 3 o'clock in the latter relates to the reference point; in the former to the event.

(9) The secretary had left the office at three o'clock

(10) a E__R__S
 |
 3 o'clock

b E__R__S
 |
 3 o'clock

Aspect is not part of Reichenbach's model, nor is it part of Hornstein's (1981) and Bouchard's (1984). But with Event Structure, we can incorporate aspect into a model of tense structure. We can add an object of origin or actualization and an object of termination to the primitive E, as shown in (11). The whole constellation of E and "o" or "o's" is the event structure of the construction. An "o" preceding E represents an object of origin or actualization; an "o" following E is the object of termination. (11a) contains a transitive accomplishment, (11b) an intransitive or transitive nonaccomplishment and (11c) an intransitive accomplishment.



(11a)-(11c) are the representations of sentences (12a)-(12c).

- (12) a He drank a glass of beer
 b He will work hard in university
 c The vase had broken

(11a)-(11c) merely say that a given event happened, will happen or had happened. Event Structure in (11) consists of the E and the attached "o" or "o's". The relation between Event Structure and tense interpretations of sentences has not yet been shown by (11). I will discuss this below. In section 2 of this chapter, I will go into the relation between Event Structure and certain time adverbs and in section 3; I will show how the moment of speech S interrelates with Event Structure when it is associated with E(vent). The three subparts of Event Structure affect tense interpretations of sentences: object of origin or actualization, the event itself and the object of termination. Thus tense interpretations support chapter 2's notion of Event Structure. I will not elaborate more on the intricacies of Reichenbach's model in what follows. I refer to the literature cited in this section for further discussion of these matters.

8.2 Time Adverbs

Vendler (1967) and Dowty (1981) found that some aspectual interpretations of sentences exclude some time adverbs. Accomplishments cannot be combined with time adverbs of the type "for NP" like for five minutes, for seven hours etc., as in (13), but nonaccomplishments can, as in (14). I will only use English data in this section - Dutch exhibits comparable phenomena.

(13)*a He broke the vase for five minutes

*b He ate the pie for an hour

(14)a He worked for an hour

b He ate sugar for five minutes

Accomplishments can unite with time adverbs like "within NP" or "in NP"; nonaccomplishments, too, but then the interpretation is different - you now refer to the beginning of the event, rather than its ending. (15) illustrates this for accomplishments, (16) for nonaccomplishments. (16a) and (16b) should be better in the future tense, but these sentences will do for now.

(15) a He ate the pie in five minutes

b He cut the tree in an hour

(16)?a He worked in an hour

?b He ate sugar in an hour

A model of Tense Structure enriched by Event Structure can explain the above. Adverbs like for X hours denote time spans. Adverbs like in X hours denote a point in time that takes an X number of minutes to reach. Adverbs of the former kind can be depicted as an unlimited time span. The latter type can be depicted as a delimited time span. They

relate to Event Structure as follows. Only open ended or undelimited events (i.e. nonaccomplishments) can last or have an undelimited time span, as shown in (17). But in Event Structure delimited time spans are points, as in, as in (18). The symbol "T" in (17) and (18) stands for "time span". "o" denotes a delimited time span; no "o" means an undelimited time span.

(17) a E,R__S He worked for five hours



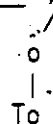
*b E,R__S He broke the vase for five minutes



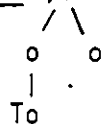
*c E,R__S The vase broke for five minutes



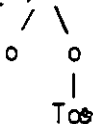
(18) a S__R,E He will work within an hour



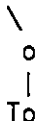
b S__R,E He will break the vase within an hour



c S__R,E He will break the vase within an hour



d S__R,E The vase will break within an hour



The two readings of time adverbs like in NP or within NP match Event Structure and the time adverb in the same way. An adverb joint to the object of origin or actualization means a certain amount of time passes before the event begins; an adverb joined to an object of termination means a certain amount of time passes before the events ends. (19) shows more examples of this. (18a)-(18d) show the Event Structure matching patterns of the first conjunct in (19a)-(19d) with the in NP adverb.

- (19) a He will rest in an hour after doing the remainder of
his work
- b He will cut the tree in an hour after doing some other
work first
- c He will cut the tree in an hour after which we can chop
the wood into small pieces
- d The vase will break in an hour if you go on banging on
it that way

Other time adverbs place events in a certain time of the past, present or future. These adverbs abound and they can join with any event whatever its structure. They join with the whole event -the E- as Hornstein (1981) proposes, but they are not attached to an event's internal structure. (20) illustrates this.

- (20) a yesterday
 |
 E,R_S He broke the vase yesterday
 / \
 o o
- b E,R_S He broke the vase in five minutes
 / \
 o o
 |
 To (T=in five minutes)

The adverb yesterday can occur in both accomplishment contexts, as in (20a), and nonaccomplishment contexts, as in (21), because of its position in diagrams like (20a).

(21) a He ate sugar yesterday

b He worked all day yesterday

8.3 Tense and Aspect

If an event structure has an object of termination, the event is delimited: it stops when this entity is in the state that typifies it as an object of termination. The moment of speech cannot be associated to the object of termination, because it cannot be associated to a point of the event at which the event has stopped existing.

There are three kinds of association in Reichenbach's system between the moment of speech, S, and the event, E. These appear in the present tense, posterior past and anterior future. The latter two have two other tense structures in which S and E are not associated. When E is an accomplishment, the association of E and S means that the event is still going on at the moment of speech S and is proceeding towards its accomplishment. These facts result from adding Event Structure to Reichenbach's system. First I look at English and Dutch data on the present tense. Next, I deal with the posterior past and anterior future in English - these two tenses act much the same in Dutch.

The English present tense cannot express accomplishment (22a), nor nonaccomplishment if it is not in the progressive form (22b). Few interpretations are possible in (22). (22) can have a habitual interpretation but it cannot mean that the event happens at the moment of speech.

(22) a He drinks a glass of milk

b He works

The habitual reading of (22a) and (22b) becomes clearer when we add an adverb as in (23).

(23) a He drinks a glass of milk each day

b He works every day

In Event Structure, these two sentences have an identical form. Yet both are ungrammatical when having the interpretation (24). This may be due to the absence of the progressive form.

(24) S,R,E

The grammatical progressive sentences are given in (25).

(25) a He is drinking a glass of milk

b He is working

The Dutch present tense is somewhat different from the English one: its present tense morphology can be associated with a future tense interpretation with most verbs. In addition, Dutch has no progressive form so it is easier to discern whether Event Structure allows a given tense structure. Sentences in the present tense in Dutch can have at least two tense interpretations. The sentences in (26) describe events that are continuing at the moment of speech.

(26) a De vaas breekt

the vase breaks

'The vase is breaking'

b Hij hakt de boom om

he cuts the tree down

'He is cutting the tree down'

(26a) denotes an event of a slowly breaking vase and (26b) of a tree being cut down. These sentences imply accomplishment, which can be seen when the adverb "for a certain period of time" is inserted. But then they are ungrammatical, as in (27): thus the Dutch sentences differ from the English progressive counterparts, as the presence of the progressive can exclude an accomplishment reading, as shown in (28).

(27)*a De vaas breekt al vijf minuten

the vase breaks already for five minutes

*b Hij hakt al drie uur de boom om

he cuts already three hours the tree down

(28)*a The vase is breaking for already five minutes

b He has been cutting down the tree for three hours

An alternative interpretation of (26a) and (26b) becomes clear when we add some adverbs. - Both sentences now denote an event in future.

(29) a Die vaas breekt nog eens

that vase breaks still once

'That vase will break one of these days'

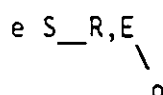
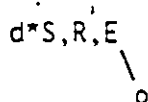
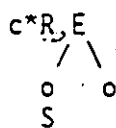
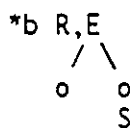
b Hij hakt morgen de boom om

he cuts tomorrow the tree down

'He will cut down the tree tomorrow'

Here, the moment of speech cannot be associated to the moment of the accomplishment of the event, as in (30b). It cannot be associated either to the object of origin, as (26b) cannot mean that the event started at the moment of speech, as in (30c). Instead, the sentence expresses an event that is still going on (30d) or that will happen in future (30e).

(30) a Hij hakt de boom om



The explanation for these data is that E and S are never associated at the level of Event Structure. This can be incorporated formally into Reichenbach's system as in (30c) and (30d). In (30), The object of origin or actualization and the object of termination do not belong to E. It follows from this that when S and E are associated S is never associated with these objects. This implies in temporal terms that S never occurs at the same time as the beginning or the end of an event. Now accomplishments behave as they do because Tense Structure acts together with Event Structure. That they do act together supports my hypothesis that Event Structure has three parts. These are the object of origin or actualization, the event itself and the object of termination. These entities must be separate; otherwise they would not affect tense interpretations of sentences.

The anterior future and the posterior future show that English is similar to Dutch. (31) shows one interpretation of the anterior future in English.

(31) S, E _ R

Again, we may expect that the moment of speech in (31) does not occur at the moment of the origin or the actualization of the event or of the accomplishment of it. (32) shows this.

(32) a He will have rested by then

b He will have broken the vase by then

c The vase will have broken by then

In (32a), at the moment of speech, the person denoted by he is resting. In (32b), at the moment of speech, the person denoted by he is breaking a vase and in (32c), at the moment of speech, the vase is breaking. (33) shows the Event Structure of the latter two - it adds an object of origin or actualization and an object of termination to (31)'s tense interpretation. S and E relate to each other if the E(vent) is an accomplishment; then S must happen during E. S can neither occur at the moment of the origin, actualization or termination of the event. This results from the attachment of S to E, not to the structure of E.

(33) a (32b) $\begin{array}{c} E, S _ R \\ / \quad \backslash \\ o \quad o \end{array}$

b (32c) $\begin{array}{c} E, S _ R \\ \backslash \\ o \end{array}$

The other two interpretations that Reichenbach gives for the anterior future do not imply the association of S and E, as is shown in (34).

(34) a $S _ _ E _ _ R$

b $E _ _ S _ _ R$

Structure (34a) means that the event will take place after the moment of speech, but before the reference point. (34b) means that the event has taken place before: the reference point comes after the moment of speech.

The posterior past has three tense structures too; one associates S and E. Again, the moment of speech neither comes at the moment of the origin or actualization of the event nor of its accomplishment. (35) shows these structures.

(35) a R__E__S

b R__S,E

c R__S__E

Sentences with the structures in (36) are given in (37).

(36) a I thought that he would have worked

b I thought, John would have eaten sugar

(36a) and (36b) can mean that the event took place before the moment of speech, but after the reference point, as in (35a). If you use (35b)'s tense structure, (36a)'s working event and (36b)'s eating event happened at the moment of speech. But the event is referred to from a moment that preceeds the moment of speech. (35c) implies that the event will happen after the moment of speech and the reference point.

Again, the moment of speech in (35b) is associated to E, not the structure of E. (35b) stops (37a) and (37b) from expressing accomplishment of the event at the moment of speech.

(37) a I thought that John would have broken the vase

b I thought that the bridge would have collapsed

The other two readings are also possible. I leave it to the reader to detect each of them.

8.4 Some Extensions

The interpretation of sentences containing time adverbs like within X minutes or in X minutes is sensitive to the presence of an object of actualization in English or the object of origin in Dutch or to the object of termination in both languages. You can use this fact to study the way Event Structure appears in sentences that are more complex than the ones used throughout this thesis. It is interesting to see that aspectual interpretations are not always sensitive to the absence of a subject or direct object NP in surface structure. Simple active sentences can refer to the beginning of the event only if the object of origin or actualization is present (see (38a)): when no object of termination is present no reference can be made to the end of the event.

(38) a The ship sank in five minutes

b He will be working in five minutes

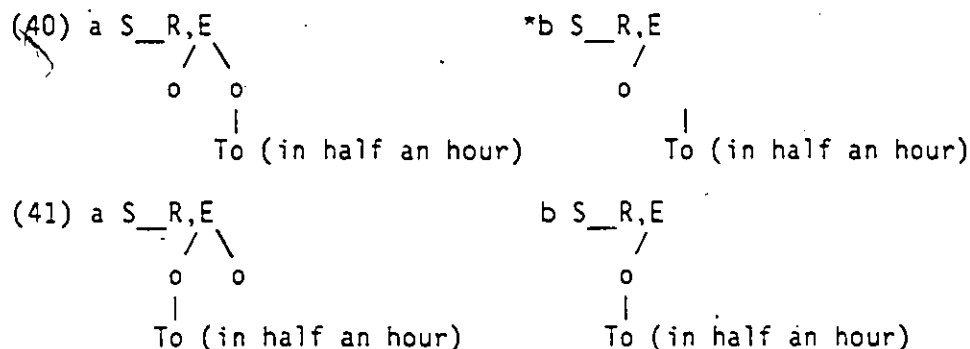
Unergative intransitivization proves the above for the object of termination. Unergative intransitivization makes reference to the end of the event impossible. Thus (39a) is grammatical under the interpretation, that drinking a glass of beer will take half an hour and then will be terminated. When the direct object is deleted, this interpretation is not possible, as shown in (39b). This sentence cannot mean that an indefinite amount of liquid will be drunk in half an hour.

(39) a He will drink this glass of beer in half an hour

b He will drink in half an hour

(39b) lacks an object of termination in its tense structure (40b), to which the time adverb can be attached. This attachment can take place in tense structure (40a) of (39a), but not in tense structure (40b) of

(39b). Both tense structures of (39a) and of (39b) allow attachment of the time adverb to the object of actualization, as shown in (41). The tense structures in (41) mean that each event begins after half an hour has elapsed.[1]



To explain the above data, we can state that accomplishments cannot undergo unergative intransitivization for the same reason causative verbs cannot. Causative verbs are always accomplishments, as we saw in chapter 7. The tense interpretations before and after the construction has been intransitivized remain the same this way. Thus, (39b) is derived from a construction whose direct object does not denote an object of termination. So too accomplishment construction with action verb involvement patterns refuse unergative intransitivization. Accomplishments can never undergo this type of intransitivization. (42) and (43) are examples of this. (42b) is the intransitive form of (42a) and (43b) of (43a). Now the verbs in (42a) and (43b) are not like their causative counterparts. They do not allow unaccusative intransitivization as in the (c)-sentences. Unaccusative verbs allow this type of intransitivization in general, as we saw in chapter 7.

(42) a He sank a well
 +inv +inv

*b He sank

*c The well sank

(43) a That row of trees breaks the wind
 +inv +inv

*b That row of trees breaks

*c The wind broke

Yet sometimes though there is no object of actualization or origin, a sentence's tense interpretation acts as if they were present. Passive constructions are examples of this phenomenon. The passive structures in (44) can mean that the event starts after half an hour, though they have no object of actualization.

(44) a This glass of beer will be drunk in half an hour

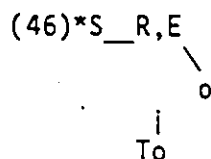
b This vase will be broken in half an hour

Thus the passive differs from unaccusativity. Though unaccusative constructions - like the passives in (44) - have no object of actualization, they still cannot refer to the beginning of an event. (45a) and (45b) do not mean that the event begins after a certain period of time has gone by. Instead (45a) means that the process of rotting will get to an end after six months; (45b) that the process of collapsing will get to an end after three days.

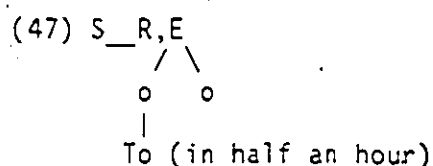
(45) a These leaves will rot in six months

b This bridge will collapse in three days

Unaccusative constructions have no object of actualization, which rules out a tense structure as in (46).



But passives do have an object of actualization. It appears at the level of semantic interpretation where tense structure is determined. The passive, as such, rearranges the surface structure of a sentence, but it does not change its event structure. (47) shows the tense structures of (44a) and (44b).



The subject and direct object NP influence aspectual interpretations of sentences except in passive constructions. The absence of the subject NP in the latter type of construction does not make impossible the tense interpretation that implies the association of the object of origin or actualization and adverbs of the type in X minutes, as shown in (47). This makes it possible to discover if Event Structure also includes other NPs from the subject and direct object NP. Remember chapter 2 states that these two NPs are constituents of events rather than participants of events as is implied by case or thematic roles. So can Event Structure define indirect objects, prepositional objects and such? By using the test with the adverb in X minutes it is easy to show which role these objects play in Event Structure.

Adding an indirect object to a VP affects the construction's aspectual interpretation, though indirectly. A sentence with a benefactive expresses nonaccomplishment only. The tense interpretation of the sen-

tences in (48), which contains a benefactive and an adverb of the type in X minutes is given in (49a). (49a) implies that the event gets started after ~~half an hour~~. The interpretation expressed in (49b) implies that it took half an hour before the event was accomplished. (49b) is not a possible interpretation of the sentences in (48). [2]

(48) a He will cook me my dinner in an hour

b He will boil me some eggs in an hour

(49) a S__R,E

o
|
To

*b S__R,E

o
|
To

A hypothetical interpretation of (48a) is that the adverb is associated with the benefactive NP, as in (50). We then have to assume that this NP is also part of Event Structure.

(50) S__R,E

o o
/ |
SU IO (DO)
|
To

Interpretation (50) of (48a) reads as if the event of cooking for someone will start after an hour has gone by. The cooking event has been going on before this hour has gone by, but it is defined as an event performed for someone else after this time period. This reading, however, is excluded, which shows that the presence of the benefactive does not interrelate directly with tense interpretation. As such it does not to play a role in Event Structure.

Neither does a subcategorized PP in the VP influence a sentence's tense interpretations. (51a) and (51b) can only mean that the event starts after half an hour.

(51) a He will work at his thesis in a half an hour

b He will surely talk about that in half an hour.

The tense interpretation of (51a) and (51b) is given in (52a). (52b) is impossible since the sentences do not contain an object of termination.

(52) a S R, E

o
|
To

*b S R, E

o
|
To

In (53), the intransitives have no prepositional object, but still have the same tense interpretation as the sentences in (51).

(53) a Sure, he will work in half an hour

b Sure, he will talk in half an hour

Thus if we account for tense interpretations, Event Structure applies only to the subject and direct object NP. Moreover, these two NPs alone determine the aspectual interpretation of a sentence. So in semantics, these two NPs stand in the limelight above their fellows such as the indirect object and prepositional object NPs.

[1]

Unergative intransitivization sometimes allows the interpretation given in (40b). Unergative intransitivization of the verb to eat is an example:

(a) They ate in fifteen minutes

The tense structure of (a) is given in (b).

(b) E, R S

o ?

To (in fifteen minutes)

As yet, I have no explanation for this. But this sentence is exceptional since the verb to eat can only mean to have dinner. (a) cannot mean that an indefinite amount of some food stuff was eaten in fifteen minutes.

[2]

Strangely enough, the direct object in these sentences cannot be a mass term, as in (a) or an indefinite plural, as in (b), but it must be like in (c). This is an indication of the accomplishment nature of constructions containing a benefactive. This stands in sharp contrast with the findings of this section. An accomplishment reading can never be adhered to a construction containing a direct object that is a mass term or an indefinite plural. This phenomenon has been discussed in chapter 2.

(a)*a He cooked me soup

*b He brought me sugar

(b)*a He cooked me noodles

*b He brought me flowers

(c) a He cooked the soup

b He brought me some flowers

Chapter IX

AN ASPECTUAL ANALYSIS OF THE FRENCH REFLEXIVE

9.1 Introduction

Here I describe the French reflexive with Event Structure.[1] I will show that the analysis of the French reflexive using case (Fillmore (1968)) or thematic (Chomsky (1981)) roles, in particular the notions of agent and patient, does not make it possible to give a unified account of the semantics of the reflexive: ~~there~~ are reflexive constructions that have neither agent nor patient. In section 2, I will propose an aspectual analysis of the French reflexive. This analysis covers all uses of the reflexive both simply and coherently. I will only deal with reflexive constructions that contain a reflexive pronoun representing a direct object. I will not consider dative reflexives. Neither will I describe a large number of reflexive data: this has been done in many traditional studies. I will show only how certain semantic primitives can help us to understand the semantic aspects essential to explaining the semantics of the French reflexive.

In traditional grammar, the French reflexive is grouped in several semantic subclasses. These classes are divided up according to the reflexive construction's similarity to a given French syntactic structure. Burston (1979) gives us such a categorization (see below). It has six subclasses.

(1) a Reflexive:

Jean se voit dans la glace

'John sees himself in the ice'

b Reciprocal:

Jeanne et Marie se parlent l'une à l'autre

Jane and Mary themselves talk to each other

'Jane and Mary are talking to each other'

c Passive:

Cette espèce de livre se vend chez les

this type of book itself sells at the

bonnes soeurs

good sisters

'This type of book is sold by the nuns'

d Intransitive:

Le vent commence à se lever

the wind begins to itself rise

'The wind begins to blow'

e Pleonastic:

Le ballon (se) gonfle

the ball itself inflates

'The ball is getting inflated'

f Intrinsic

Hélène s'est évanouie

Helen herself is fainted

'Helen fainted'

Usually semantic interpretations of the data in (1) use either the semantic notions of agent and patient, or active and passive. This is the case, for instance, in Stéfanini (1962) and in Burston (1979). Stéfanini's proposals are based on the semantic ideas developed in Guillaume (1943). The reflexive, or in Guillaume, the middle voice, has both active- and passive-like semantics. Data vary. Some are almost active-like; some have both active- and passive-like qualities in equal measure; some are almost completely passive. This is shown in (2) which is from Stéfanini (1962).

(2) a predominantly active

je me lave

'I am washing myself'

b active and passive

je m'irrite

I myself irritate

'I am feeling irritated'

c predominantly passive

la maison se construit

the house itself builds

'The house is being built'

Stéfanini states that no purely agent-like or patient-like reflexive constructions exist in French. The above theoretical assumptions lead to the following interpretations in Stéfanini (1962).

(3) a Il s'aperçoit de quelque chose

he himself notices something

'He notices something'

b Il s'endormait

he himself fell asleep

'He fell asleep'

A reflexive construction as in (3a) means the perceiver receives an image from outside himself. The perceiver's effort of interpretation is not suppressed. So the entity denoted by the subject NP is partially active and partially passive. (3b) is a process of falling asleep that presents itself to the subject who is looking for the sleep. Again the entity denoted by the subject NP is both active and passive.

Burston (1979) uses the semantic pairs of active/passive and agent/patient, but in a different way. Burston's aim is to give a unified semantic description of the reflexive. The author starts out from a Jakobson type of approach to semantic analysis, assuming that the reflexive's formal invariance comes together with a semantic invariance. This formal invariance is typified using Jakobson's semantic terminology: the verbal subject of the reflexive "is simultaneously viewed as both the initial focus and ultimate reference point of the verb" (page 153). All the semantic variation results from this. Burston takes up Guillaume's idea of an active-passive reflexive subject, saying that this kind of subject both starts and is affected by the verb's action - they both "initiate" and "suffer" a verbal process. Burston's interpretation of the passive reading of the reflexive in (4) is indicative of this. He states that the reflexive's subject contributes to the process it is undergoing. But this is not the case in the passive (4b).

(4) a Une fortune se gaspille facilement

a fortune itself waste easily

'A fortune is wasted easily'

b Une fortune est facilement gaspillée

'A fortune is wasted easily'

Yet four arguments go against this agent-patient, active-passive description of the reflexive.

First, case or thematic roles may have little relevance to the semantic description of phenomena of grammar. I have already discussed examples of this for Dutch and English. The same may be true for the French reflexive construction. This means notions of agent and patient or active and passive have little relevance to the semantic description of this phenomenon.

Secondly, even if they were relevant to semantic description, they do not account for all cases. The reflexive in French is possible with almost any verb including perception and recipient verbs. For instance, the verbs in (5) need neither an agent subject nor a patient direct object to be reflexivized in (6).

(5) a Il a entendu le bruit dans le sous-sol

'He heard the noise in the basement'

b Jean-Paul a reçu une lettre de sa mère

aujourd'hui

'Jean-Paul received a letter from his mother

today'

(6) a Le bruit dans le sous-sol s'entend si tu
mets ton oreille ici.

'The noise in the basement can be heard when
you listen here'

b Autrefois, les paquets se recevaient au
bureau de poste

'Before, parcels were received at the post
office'

The subject in (5a) does not act but merely perceives; neither does it need to act in (5b). Receiving a letter is a relation established between a recipient and another entity. Nothing has to happen for this to be possible. The letter may simply sit on the doormat for the recipient to see it and think to himself that 'I have received it'. The direct object of a perception verb is not a patient, since it is not acted upon. Neither is the direct object of a recipient verb acted upon. For a letter to partake in the event of receiving it may, again, simply sit on a doormat without anything happening to it. Of course, it has to be sent before it can be received. Yet although the event of sending precedes a receiving event, the sending event is not part of the receiving. Perception verbs and recipient verbs can appear in a reflexive construction. But notion of agent and patient cannot describe the reflexives in (6). Neither can the notions of active and passive, though these two notions seem more appropriate. As well Guillaume's active-passive continuum leads to difficulties - how can le bruit and la lettre be active?

Thirdly, the notions of agent and patient or active and passive alone cannot describe all the subclasses of reflexive constructions with transitive counterparts having an agent and patient. Using of both notions at once impedes semantic interpretation of, and above all, the passive reading of, the reflexive. The subjects in (7) cannot play both an active and passive rôle in the event; neither can they be both agent and a patient.

(7) a La chambre s'est nettoyée en cinq minutes

'The room was cleaned in five minutes'

b Le reste du vin s'est bu en un clin d'oeil

'The rest of the wine was finished in a blink
of an eye'

c Ce repas s'est mangé rapidement'

'That meal was eaten quickly'

It is farfetched to ascribe agentivity to the subjects of the three sentences in (7). But say we could. This leads to the following interpretation. La chambre in (7a), le reste du vin and ce repas are both actively and passively involved in the event they are part of. One way of getting this interpretation from (7a) is to say properties of la chambre actualize the cleaning of it, as has been argued for the subject of the middle in English in Oosten (1977) and O'Grady (1980) and for the English subject NP in general in chapter 3. Yet the middle in English is very restricted, only a subclass of all verbs can occur in a middle construction. The reflexive with passive meaning in (7), in contrast, can be made of virtually all transitive verbs in French. The definition given by Oosten (1977) and O'Grady (1980) tries to explain this unpro-

ductivity. Some entities in reality may have properties that help actualize an event, others may not. The material in (8a) may ease or "do" part of the washing of itself; properties of a ball can do nothing that is related to the throwing of it, which explains the ungrammaticality of (8b).

(8) a This modern fabric washes easily

*b This leather ball throws easily

To explain the reflexive this way, we can attribute some "activity" or initiating forces to the room in (7a) that helps clean it. But you cannot say this about the wine in (7b) and the meal in (7c). Drinking is done by the person who drinks - the object drunk does not "do" any drinking. Likewise an object shown does not "do" anything to make itself shown. The one who does the showing does all the work. Thus there is no way to interpret the subject NPs in (7) as both active and passive in the event.[2]

The fourth argument against an agent-to-patient or active-to-passive continuum is this: it is impossible to unify two opposing notions. Saying that a reflexive construction is both active and passive, does not make it possible to pinpoint exactly what the reflexive stands for semantically. To do so we need a comprehensive semantic notion to replace these combined notions. If we hear that something is both somewhat black and somewhat white, we may conclude that it is grey. But what notion could combine the ideas somewhat agent and somewhat patient?

Thus Stéfanini's (1962) and Burston's (1979) semantic notions cannot clearly describe all interpretations of the reflexive. These notions are too specific to make generalizations about perception verb and

recipient verb constructions. Using both at once stops you from interpreting reflexives with a passive reading. In the next section, I use Event Structure to describe these constructions in French, simply, and coherently.

9.2 An Aspectual Interpretation of the Reflexive

In chapters 4 and 5, I defined unaccusativity and passive using Event Structure. When a construction expressing accomplishment contains only one argument NP, this argument will automatically denote an object of termination. This object can only be realized in direct object position in deep structure. A construction with an NP that denotes an object of origin in French or Dutch or an object of actualization in English can be passivized. Passivization causes the object of origin to disappear. In French it can be realized in a par-phrase. The object of termination does not affect passive constructions, but it does affect unaccusative ones.

(9) a Unaccusativity

event - object of termination

V NP
 |
 subject

b Passive

object of - event - (object of
origin termination)

NP V NP
| |
(par-phrase) subject

Examples of French unaccusative and passive constructions are given in (10) and (11).

(10) a Il arrivait trois heures en retard

'He arrived three hours too late'

b Il va au marché cet après-midi

'He will go to the market this afternoon'

(11) a Il a été vu par Philippe sur le quai

'He was seen by Philip on the pier'

b Elle a été entendue par Mélanie dans le grenier

'She was heard by Mélanie in the attic'

Now if we also assume that reflexivization depends on Event Structure, we get this interpretation. Reflexivization looks partly like unaccusativity and partly like passive. But it cannot be like unaccusativity because reflexives can (12a), but need not, contain (12b) an object of termination. In other words, not all reflexive constructions are accomplishments.

(12) a Le vase s'est cassé (*pendant cinq minutes)

'The vase broke (*for five minutes)

b Il s'est lavé pendant cinq minutes

'He washed himself for five minutes'

Reflexivization looks different from the passive. It cannot have an object of origin because you cannot change the sentence to realize this object with a par-phrase.

(13)*a Le bébé s'est lavé par sa mère

the baby itself washed by its mother

*b Le vase s'est cassé par sa force brute

the vase itself broke by his brute force

Thus reflexivization is a kind of unaccusativity - though it does need an object of termination.[3]

(14) Reflexivization

• event (object of termination)

V NP

(14) implies that a reflexive construction always consists of an event named by the verb, and an entity that can be its object of termination. But if it is not, it is the ultimate reference point of the event, as outlined in chapter 2, section 4. Thus a reflexive gives an event and its tail. This semantic interpretation makes it possible to generalize over all uses of the reflexive. The reflexive constructions in (15) all denote an event and its tail or its ultimate reference point. In (15c) and (15d) this reference point is also its object of termination.

(15) a Il se rase

'He is shaving himself'

b Il se trompe

he himself mistakes

'He is making mistakes'

c Le vase s'est cassé

the vase itself is broken

'The vase broke'

d Le lait s'aigrit

the milk itself sours

'The milk is turning sour'

Although (15a) and (15b) imply that the entity il is also the object of origin of the event, this does not appear in the sentence's semantic structure. This assumption lets us give a coherent semantic account of (15) as events with their ultimate reference point. This analysis explains the ambiguity of most reflexives: this ambiguity comes about because the interpretation of their object of origin is left free Burston (1979) gives the data in (16) for the verb acquiescer.

(16) a Ces deux médecins ne font jamais appel à un confrère, ils se guérissent eux mêmes.

These two doctors never call upon a colleague, they treat themselves'

b Ils (ces deux médecins) se guérissent l'un l'autre

'They (these two doctors) treat each other'

c Ils (ces maux de tête) se guérissent avec un peu d'aspirine

'They (these headaches) cure with an aspirin'

d On ne prend pas de médicament pour soigner ces petits rhumes, ils (se) guérissent tout seuls

'One does not take medication to take care of little colds, they cure by themselves'

My interpretation of this is that all reflexive constructions in (16) denote the event 'guérir' and its ultimate reference point, but not its object of origin. This object of origin does not appear at the level of "grammatically relevant semantics" - semantics mapped onto Syntactic Structure through the component of Correspondence Rules in Jackendoff's (1983) model of grammar.[4] The object of origin be anything allowed by an event like guérir and its ultimate reference point. For instance, in grammatically relevant semantics it does matter who or what cures ces deux médecins in (16a). Yet this NP stands for the ultimate reference point and its object of termination, since the construction expresses accomplishment. (16b)-(16d) do not tell us who or what cures: the object

of origin may be the ils in (16b); the aspirine in (16c) and the ils in (16d). In (16d), one could also imagine that the body functions as the object of origin. Burston calls this type of reflexive pleonastic. This idea does not agree with my approach. There is always the meaning content introduced by each reflexive that there is an unspecified object of origin, whatever its exact nature may be.

The above analysis illustrates a basic difference between a purely descriptive semantic approach and one that ties in with linguistic data. Traditional studies of the French reflexive are an example of the former. The data in (16) are described individually in these studies and an account is given of all their possible interpretations. The semantic ambiguity that is exhibited by the reflexive is only described. A semantic approach that unites grammatical form and semantic interpretation explain the ambiguity why a certain grammatical form allows several semantic interpretations. Kempson (1977) states that a theory of semantics must be able to give an explanation of ambiguity. This means that the latter theory is to preferred from a methodological point of view. Note here that it is not always clear in Kempson (1977) what the precise difference is between an account and an explanation in the context of the discussion on ambiguity.

(14) predicts that reflexives of stative verbs are impossible. Statives do not have event structure, so they have no object of origin. An ungrammatical example of a stative reflexive is given in (17a). Dominer 'to dominate' cannot be reflexive when used statively and denoting a locative relation of dominance; it can when expressing a nonstative relation of power (17b).

(17)*a Ce jardin se domine sans problèmes
 that garden itself dominates without
 problems

b Cette femme se domine facilement
 that woman itself dominates easily
 'That woman can be dominated easily'

A hypothetical grammatical stative interpretation for (17a) is that a garden can easily be dominated by a number of undefined entities such as trees or buildings.

The above analysis implies that all subcategories of the reflexive given in traditional French grammar are realizations of a conceptual interpretation of the basic semantics of the reflexive. Ordinary reflexives, as in (18), denote an event plus its ultimate reference point il. The fact that il is also the object of origin of the event of laver 'to wash' is a matter of the conceptual structure in the sense of Jackendoff (1983) that is adhered to the sentence.

(18) Il se lave

Wüllner (1827) deals with the German genitive in the same way. Case morphemes are analyzed in such a way in this study that one can generalize semantically over all the uses of them in a specific language. It is wrong to say that the German genitive expresses possession because it often means something other than possession, as shown in (19). Thus you cannot map the notion of possession onto genitive morphemes in Syntactic Structures. (19a) expresses a relation of possession; (19b)'s genitive is governed by a verb; (19c) expresses a locative relation (19d) a moment in time.

(19) a das Haus des Mannes

'the house of the man'

b des Krieges gedenken

of the war commemorate

'to commemorate the war'

c ausserhalb des Gartens

'outside the garden'

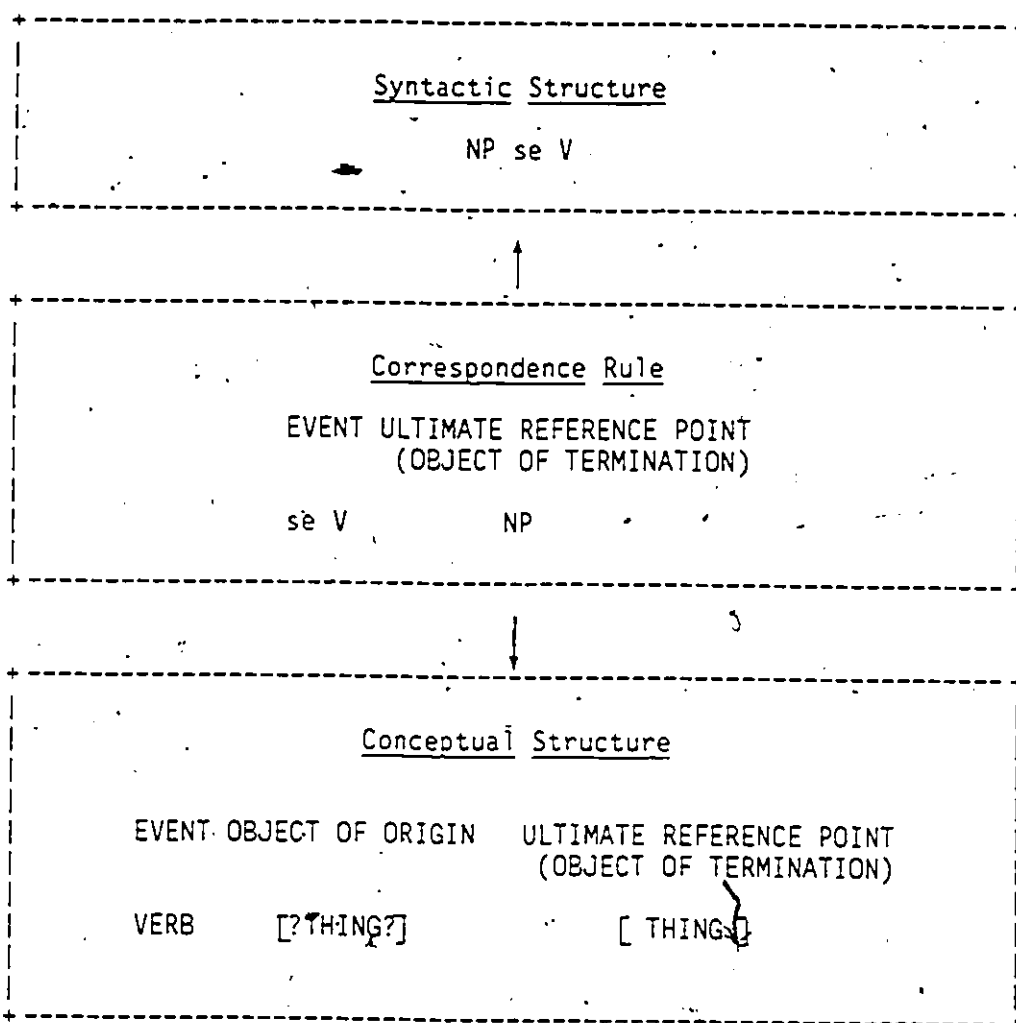
d eines Tages

'one day'

Wüllner writes that this case denotes "movement from" - whether it expresses possession is beside the point. Here possession itself means "movement from" as if something you own goes out from the owner. This way a question like: "Whose book is this?", to give one of Wüllner's examples, can be interpreted as: "From whom is this book coming?"

The reflexive has one meaning important to linguists. Categories of reflexives, as in (1), result from matching this one meaning with various concepts. (20) shows this, using Jackendoff's (1983) notation. Capitalized words denote major ontological categories.

(20)



(20)'s correspondence rule does not chose an object of origin. It appears at the Conceptual Structure level. Now you may wonder how the reflexive construction limits the range of possible objects of origin in Conceptual Structure. One reason may be that the range of objects of origin is restricted by the verb meaning. The verb may predict how the object of origin of the event is involved in this event. It is also possible that no predictions can be made as to the nature of this involvement. This matches the distinction between different verb

classes in French and in many other languages that is completely unrelated to reflexivization. This is the distinction between action and perception verbs on the one hand and causative verbs on the other in chapter 7. Besides being the object of origin of the event in (21), the entity denoted by the subject NP is also restricted semantically because it can only be an "eater", a "seer" or a "thrower"

(21) a Marcel mange une poire

'Marcel is eating an apple'

b Barbara me voyait dans la rue

'Barbara saw me in the street'

c Il jetait le ballon vers moi

'He threw the ball towards me'

In (22), the subject NPs are not restricted in this way. The entities denoted by it may do virtually anything to break a vase (22a); to crush a glass (22b) or to open a door (22c). For example, they could throw a stone against the object concerned.

(22) a Il a cassé les vases antiques

'He broke the antique vases'

b Il écrasait le verre

'He crushed the glass'

c Il ouvrait la porte

'He opened the door'

The reflexive does not change the basic difference between action and perception verbs on the one hand and causative verbs on the other. Though an object of origin is absent in the semantic structure of an action or a perception verb, you can still see that an NP denoting an

eater, etc. has not been expressed. With causative verbs there is no way to discover anything about the object of origin.

Event Structure not only interpretes reflexives coherently. It also helps to explain an observation made in Rothemberg (1974), page 67. Rothemberg observes that in many intransitive constructions without a reflexive: "l'élément lexical assumant la fonction du sujet est également le siège de l'action, du processus qui est vu comme se développant à partir de lui." The "siège" can be interpreted as the location of the event, as expressed by the system of Involvement Semantics in chapter 7. The observation that the action or the process develops starting out from the subject means in terms of Event Structure that the subject is the object of origin. When the same verbs are used with a reflexive pronoun the observation is that: "le se de la récession marque pourtant que les qualités inhérentes, les forces internes, les propriétés de l'élément lexical assumant la fonction du sujet sont insuffisantes à elles seules pour permettre la réalisation de l'action ou du processus, bien qu'il soit considéré comme leur point de départ." In terms of Event Structure, the observation that the subject cannot realize the event by itself means that the subject cannot be the object of origin. The above observations are predicted by an Event Structure interpretation. Simple nonstative intransitive constructions that do not imply accomplishment contain an object of origin.. This object is realized in subject position, which is predicted by the Event Structure Correspondence Rule in (23).

- (23) NP-----V-----NP
 | |
 object object of
 of origin termination

All the events in (24) originate in the entity denoted by the subject NP and, as Rothemberg says, "develop starting out from this NP". The il 'he' in (24a) creates the laughing; the ballon 'ball' in (24b) causes itself to swell and the mur in (24c) causes itself to blacken, because of chemical changes in its substance.

(24) a Il rit

'He is laughing'

b Le ballon gonfle

'The ball is swelling'

c Le mur noircit

'The wall blackens'

A reflexive construction never contains an object of origin because it is left unspecified. But it always contains the ultimate reference point of the event or, in some cases, its object of termination. In Rothemberg's terms, this means that forces in the entity denoted by the subject NP are too weak to bring the event into existence. This semantic analysis predicts the interpretation of the data in (25). These are the data from (24) with a reflexive pronoun added to them. According to an Event Structure interpretation, the essential aspect of (25a) is that the laughing affects the entity denoted by il 'he' and takes possession of it. This entity is also be interpreted as the object of origin. But in my approach this results from the conceptual interpretation of the sentence. (25b) implies that the ballon 'ball' gets inflated by external forces rather than by its own properties, as in (24b). Burston says that the reflexive pronoun in (25b) is pleonastic, as indicated in (1). There exists, however, the difference in meaning described above. This

difference falls out without any problems using Event Structure. (25c) denotes a process of a wall that blackens, because of external - not internal - forces working on it such as smoke penetrating its surface.

- (25) a Il se rit de ces choses
 he himself mocks these things
 'He mocks these things'
 b Le ballon se gonfle
 the ball itself swells
 'The ball is getting inflated'
 c Le mur se noircit
 the wall itself blackens
 'The wall is getting black'

Other data that can be interpreted with the aspectual analysis are given in (26). These data are from Stéfani (1962).

- (26) a Il s'aperçoit de quelque chose
 he himself notices something
 'He notices something'
 b Il s'endormait
 he himself fell asleep
 'He fell asleep'

(26a) is an event with the ultimate reference point il. There is no mention of the object of origin. In my approach, (26a) implies, in contrast to its nonreflexive counterpart (27a), that the perception event happens to the perceiver, and that it is not just brought into existence by it; i.e. the perceiver is passively affected by the event. (26b) implies that an event leads to a person falling asleep. Again

there is no mention of the object of origin. Indeed it could be anything: endormir is a verb of the causative class discussed above. This class, unlike agentive and perception verbs, does restrict its subject semantically, as shown in (27b).

(27) a Il aperçevait la voiture à côté de la
maison

'He noticed the car besides the house'

b 1) Sa fatigue l'endormait

'His tiredness made him fall asleep'

2) La conversation l'endormait

'The conversation made him fall asleep'

The data in (25)-(27) show that the reflexive may change the Event Structure interpretation of a sentence. The object of origin in (24a) and (27) has become an ultimate reference point in (25a) and (26a). The passive does not change the Event Structure of a sentence, only its syntactic structure. The object of origin in an active sentence shows up as an object of origin in a passive one. In French this is in a par-phrase.

9.3 Tense

Tense interpretations of sentences with adverbs of a certain type depend on the event structure of a sentence, as was shown in chapter 8. Adverbs like in X minutes or within X minutes can be attached to an object of actualization in English, of origin in Dutch or to an object of termination in both languages. When no object of actualization, of origin or of termination is present, this attachment is impossible. And

so are the readings related to it. (28a) can imply that the event of writing will either begin or end in twenty minutes; (28b) implies only that this event will begin in twenty minutes and (28c) that the event of sinking will end - and not begin - in twenty minutes.

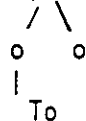
(28) a He will write that letter in twenty minutes

b He will write in twenty minutes

c The boat will sink in twenty minutes

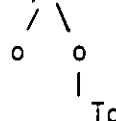
The tense interpretations of the sentences in (28) are given in (29).

(29) a I S--R,E



(in twenty minutes)

II S--R,E



(in twenty minutes)

b S--R,E



To (in twenty minutes)

c S--R,E



To (in twenty minutes)

I state in section 2 that the French reflexive lacks an object of origin in the same way unaccusatives, as in (29c), lack an object of origin. Reflexives and unaccusatives are unlike passive constructions that always contain origin or actualization in terms of Tense Structure, as was shown in chapter 8. The tense interpretation of a reflexive sentence can be used now as independent evidence for section 2's analysis. If there is no object of origin, an adverb of the type in X minutes can never lead to the interpretation that the event begins after a certain time span, as in (29a) and (29b).

French, however, does not have a time adverb like the English in X minutes. Instead, it has one such adverb that refers to the end of an event only: en X minutes 'in X minutes'. And it has one that refers to the beginning of an event: dans X minutes 'in X minutes'. Interpretation (28aI) is expressed by (30a); (28aII) by (30b); (29b) by (30c) and (29c) by (30d).

(30) a Il mangera la pomme dans deux minutes:

'He will eat the apple in two minutes'

(=He will start eating the apple two minutes from now)

b Il mangera la pomme en deux minutes

'He will eat the apple in two minutes'

(=It will take him two minutes to eat the apple)

c Il mangera dans deux minutes

'He will eat in two minutes'

(=He will start eating two minutes from now)

d Le bateau chavirera en deux minutes

'The boat will capsize in two minutes'

(=It will take two minutes for the boat to capsize)

Reflexives, however, allow reference to the beginning and the end of the event. Both adverbs with en and dans are possible in these constructions, as shown in (31).

(31) a Il se lavera en cinq minutes

'He will wash himself in five minutes

(=It will take him five minutes to wash himself)

b Il se lavera dans cinq minutes

'He will wash himself in five minutes

(=He will start washing himself five minutes from now)

(31b) seems to refute our assumptions about the interaction of Event Structure and Tense Structure. There is, however, one aspect of time adverbs to take into account. In chapter 8 there are two types of time adverbs: one attaches to the event as a whole; one attaches to the event structure of a sentence. The relevant data and their tense interpretation are repeated in (32) and (33).

(32) yesterday

E, R--S He broke the vase yesterday

o o

(33) E, R--S He broke the vase in five minutes

o o

To (T=in five minutes)

The adverb dans X minutes in French is analyzable as an adverb of the type in (32). The difference between this adverb in French and the adverb with in and within in English becomes clear when we insert the adverb encore or still in the sentence. This does not lead to ungrammaticality in French. But it does in English, as in (34) and (35).

(34) a Dans une heure, il mangera encore

in an hour he will still eat

'He will still eat an hour from now'

b Dans une heure, il se lavera encore

in an hour he will still wash himself

'He will still wash himself an hour from

now'

(35)*a He will still drink in an hour .

*b He will still wash himself in an hour

The grammaticality of (34a) and (34b) means that dans une heure refers not to the beginning of the event but to its mere happening after an hour has passed. Were this not the case, using the adverb encore would lead to ungrammaticality, since its presence implies that the event is going on before the point in time denoted by the adverb dans une heure. In English this is not so. Usage of the adverb in an hour refers only to the very beginning, or the end, of the event. Implying that the event is going on before the point in time expressed by this adverb leads to ungrammaticality here. Note that (35a) and (35b) can get a grammatical interpretation; but then still has a different interpretation. Nothing is said about whether the event is still going on at a certain point in time, only that the event will (still) be taking place at that point in time, contrary to what was expected. For these reasons, the French dans une heure, in contrast to the English in an hour, is an adverb of the type in (32) - an adverb unattached to the event structure of a sentence.

9.4 Conclusion

Above I have proposed a semantic analysis of the French reflexive that covers all reflexive data. This analysis is part of a semantic theory that distinguishes linguistically relevant semantics from linguistically non-relevant semantics. The former type of semantics can be read off the data; the latter type serves to help construct a conceptual structure for each sentence, but is not mapped into the syntactic, or the morphological, component. The aspectual notion of Event Structure is the foundation of this analysis: Every nonstative sentence is a complete or partial realization of Event Structure. Reflexives represent a partial realization of Event Structure, just like unaccusatives. Reflexives contain only the event name and its ultimate reference point, which may sometimes be its object of termination.

As for tense interpretations, no conclusive evidence has been found about the status of the object of origin in French reflexive constructions. This section, as such, can merely indicate where such evidence may be found. It is up to future research to shed more light on the event structure of the French reflexive.

[1]

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[2]

Ruwet (1972) has remarked that constructions as in (7) often have a generic reading. Ruwet uses the term 'middle' for this type of reflexive. Genericity, however, does not change anything about the presence or absence of event structure in a construction, as was shown in chapter 3, section 4. Any type of event structure can appear in a construction with a generic interpretation. Accomplishments, nonaccomplishments, etc. may be used in a generic way. Neither does genericity change the case role interpretation of a sentence. Genericity as such is not important to the discussion of sentences from the perspective of case roles or Event Structure.

[3]

A similarity between passive constructions and reflexives is that both constructions allow reference to an unexpressed object of origin by way of the adverb avec plaisir 'with pleasure', as in (a) and (b). These data were pointed out to me by Paul Hirschbuhler.

(a) Cette viande s'est mangé avec plaisir
 that meat itself is eaten with pleasure
 'That meat was eaten with pleasure'

(b) Cette viande a été mangé avec plaisir

'That meat has been eaten with pleasure'

Unaccusatives in English do not allow this adverb, as shown in (c).

(c)*The vase broke with a lot of pleasure

The above means that the exact semantic status of the absent object of origin in (14) is unclear. This problem, however, does not influence my analysis of the reflexive.

[4]

It is interesting to see here that notions that are similar to my notions of object of origin and of termination can be found in studies on the French reflexive. For instance, Stéfani (1971), as was outlined in chapter 2, section 3, states that with the French reflexive the origin and the end of the event appear in the same position, that of the subject NP. My semantic analysis of the reflexive is different: I only make reference to the end of the event and the event itself and consider the origin absent.

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