

The Spatio-Temporal Structure of Narrative Texts:

A Study of Aspect

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Declaration

I declare that this thesis has been composed by myself and that the research therein has been conducted by myself unless otherwise indicated. Material included in Chapter Seven has appeared in *Work in Progress, 1990, Vol. 21*, Department of Linguistics, University of Edinburgh.

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Abstract

The aim of this thesis is to investigate the spatio-temporal structure of narratives. The emphasis is on the study of Finnish locative constructions with aspectual meaning.

A distinction is drawn between semantic and discourse anaphora: 'semantic' anaphors are semantically incomplete spatio-temporal expressions, which have to be interpreted with respect to a spatio-temporal antecedent; 'discourse anaphora' refers to the intersentential relations (e.g. precedence or succession) between spatio-temporally complete expressions. Throughout the thesis, an attempt is made to separate semantics and pragmatics: the emphasis is on the interaction of predicate class, sentence aspect and the aspectual perspective of sentences in discourse.

Space and time are assumed to be two distinct, though interrelated, dimensions; therefore, spatial and temporal anaphora are distinguished. Spatial relations are considered to be more basic than temporal ones; and furthermore, the notion of 'spatial location' is assumed to include not only abstract categories relating to mental and physical states, but also abstract linguistic categories, such as telic processes and absolute states. It is the interaction of these abstract and concrete relations that is claimed to have special relevance to the spatio-temporal interpretation of narratives.

The theory is presented within a localist framework; it is assumed that the basic semantic relations are spatial in nature, and can be described in terms of location and movement. The most important theoretical notion is that of *motion event*, represented by MOVE- and BE-predicates. MOVE-sentences are spatio-temporally autonomous, and can be used to move the narrative forward, while BE-sentences are (spatio-)temporally nonautonomous (anaphoric), and are used to refer to events which are interpreted as overlapping a spatio-temporal entity specified by an autonomous clause. It is argued that in the analysis of the spatio-temporal structure of narratives, other semantic notions, including causality, are secondary to the notion of spatio-temporal location.

Abbreviations

ABL	Ablative
ACC	Accusative
ADESS	Adessive
ALLAT	Allative
CAUS	Causative
ELAT	Elicative
ELAT3	Elicative of 3rd Infinitive
ESS	Essive
GEN	Genitive
IMPERF	Imperfective
INCHO	Inchoative
ILLAT	Illative
ILLAT3	Illative of 3rd Infinitive
INESS	Inessive
INESS2	Inessive of 2nd Infinitive
INESS3	Inessive of 3rd Infinitive
INF5	Fifth Infinitive
INSTR2	Instructive of 2nd Infinitive
LOC	Locative
NOM	Nominative
PART	Partitive
PERF	Perfective
PLUR	Plural
POSS	Possessive
POT	Potential
PP	Past Participle

SP	Simple Past
SPr	Simple Present
TRANSL	Translative

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Chapter One

Introduction

1.1. A Brief History of Tense in Text

Traditional tense semantics is concerned mainly with the truth conditions of isolated sentences, rather than with the interpretation of a series of consecutive clauses in a discourse. Consider the following:

- (1) Mary winked at Bob, handed over the parcel,
and walked out.

According to a standard Priorian (Prior, 1967) analysis (1) is true if there are times in the past - say $t1$, $t2$ and $t3$ - such that Mary winked at Bob at $t1$, handed over the parcel at $t2$, and walked out at $t3$. However, the temporal relation between these three times can be totally arbitrary; for instance, the interval between $t1$ and $t2$ may be a few seconds or several weeks; similarly, $t3$ may precede $t1$, etc.

Obviously, this kind of analysis is not sufficient to describe the temporal order of events in consecutive sentences; we also need to account for the fact that in (1), for example, the events are interpreted as occurring in a succession, while another piece of discourse may suggest a different kind of ordering. In other words, we need to incorporate the truth-conditions of isolated sentences into those of a piece of discourse as a whole.

Two specific modifications have been proposed to traditional tense semantics. First, Priorian semantics has been supplemented by Interval Semantics, introduced by Bennett and Partee (1972) and extended by Taylor (1977) and Dowty (1979). Interval semantics is based on the idea that the truth of the sentence is relative to an interval of time, i.e. that the truth of a sentence with respect to a given interval I is formulated as independent of the truth of the same sentence with respect to moments within I . This notion can explain why, for example, the truth of (2):

(2) John wrote a letter in 20 minutes.

with respect to a time interval, e.g. between 10am and 10.20am, does not imply the truth of the same sentence with respect to a subinterval of this time.

Second, the subinterval properties of each sentence are assumed to be crucially dependent on its aspectual class (aktionsart). Following Vendler (1967), Dowty (1979) distinguishes three aspectual classes of sentences: *states*, *activities* and *accomplishments/achievements*¹, which are defined as follows:

(3)

A sentence α is stative iff it follows from the truth of α at an interval I that α is true at all subintervals of I. (e.g. If John was asleep between 3 and 4, then he was asleep at *all* subintervals of this interval: hence, *be asleep* is a state).

A sentence α is an activity iff it follows from the truth of α at an interval I that α is true of all subintervals of I down to a certain limit in size (e.g. If John walked between 3 and 4, then he walked at *most* subintervals of this interval: hence, *walk* is an activity).

A sentence α is an achievement/accomplishment iff it follows from the truth of α at an interval I that α is false at all subintervals of I. (e.g. if John wrote a letter between 3 and 4, then it is false that he wrote a letter in any subinterval of this interval: *write a letter* is an achievement/accomplishment).

The question is then: how can we account for the temporal interpretation of the various sentence types in discourse?

One discourse approach to tense is proposed by Kamp (1979) and Hinrichs (1986), who examine the temporal interpretation of consecutive sentences within Discourse Representation Theory (DRT).² DRs form an intermediate level of representation, mediating between syntax and model-theoretic interpretation. In rough terms, a DR is a description of a partial model: A simple DR counts as true with respect to a complete model if it is *embeddable* into the model.³ In more complex cases, the DR structure consists of a structured set of DRs, and the embeddability conditions for the entire structure are recursively defined in terms of the embeddability of the substructures.

¹Unlike Vendler, Dowty does not distinguish accomplishment (durative) and achievement (punctual) sentences. I shall return to the punctual-durative distinction in Chapter Three.

²DRT was motivated both for the behaviour of pronouns and for the interpretation of aspectual classes in discourse. As we shall see in Chapter Two, there are assumed to be similarities between nominal and temporal anaphora.

³*Embeddability* is a technical notion in Kamp's system, which plays a role somewhat analogous to satisfaction conditions in standard semantics for predicate logic.

Partee (1984) has applied the DR theory to the analysis of pieces of discourse in English. She employs a number of discourse representation rules which take certain types of syntactic information as input. These rules depend on the *aspectual type* of each new sentence in discourse, classified by Partee as *events*, *processes* and *states*. ('events' correspond to Vendler's achievements and accomplishments, and 'processes' to activities). These types are defined as emerging from the interaction between predicate type and a number of *sentence operators*, such as the progressive, the simple past and the perfect.

The basic rule is that event sentences move the narrative time forward, while stative sentences (including progressive sentences) do not; states are interpreted as overlapping with the event of the previous sentence. Consider the following examples in this respect:

- (4) a. Jameson entered the room (e1)
 b. and shut the door carefully. (e2)
- (5) a. Jameson entered the President's office. (e1)
 b. John was writing a letter by the window. (e2).
- (6) a. Jameson entered the room. (s1)
 b. It was pitch dark around him. (s2)

Applying the DR rules outlined above to (4), (5) and (6) would result in the following DR structures:

$$(4') \quad \begin{aligned} e1 &\subseteq r0 \\ e1 &< r1 < rs \\ e2 &\subseteq r1 \\ e2 &< r2 < rs \end{aligned}$$

$$(5') \quad \begin{aligned} e1 &\subseteq r0 \\ e1 &< r1 < rs \\ r1 &\subseteq s1 \end{aligned}$$

$$(6') \quad \begin{aligned} e1 &\subseteq r0 \\ e1 &< r1 < rs \\ r1 &\subseteq s1 \end{aligned}$$

where r = reference time
 rs = speech time
 e = event
 s = state
 \subseteq = inclusion
 $<$ = precedence

Thus, each new past-tense event sentence is specified as occurring within the then current reference time, and it causes the reference time to be shifted to a new reference time, which follows 'just after' the newly introduced event. States, by contrast, are required to include the current reference time, though, as is

illustrated by (6), they need not overlap the just-introduced event.⁴

Two things should be noted regarding the DRs. First, events and states, and the relationships between them, are regarded as primitive, rather than time intervals (although naturally events are ultimately related to time intervals). Second, the 'r' in these representations is related to the Reichenbachian RT (see Reichenbach, 1947), although strictly speaking, it represents a kind of *temporal focus*. (The general notion of 'reference time' will be discussed extensively in Chapter Two.)

An alternative approach to tense in text is suggested by Dowty (1986). According to Dowty, it is the *semantic*, and not syntactic properties of the relevant categories (verbs, NPs, PPs and temporal adverbials) that are used, compositionally, to determine the aspectual class of a sentence.⁵ Consider, for instance, the following:

- (7) a. John walked.
b. John walked a mile/to the station.
- (8) a. John read a book in two hours.
b. John read a book for two hours.

As is illustrated by (7), the presence of an NP/PP can convert an activity (cf. (7a)) into an accomplishment (cf. (7b)). Similarly, the presence of a temporal adverbial can disambiguate a lexically ambiguous verb: (8a) can only have the accomplishment interpretation, while (8b) denotes an activity. Thus, Dowty claims that it is only in the model-theoretic (semantic) interpretation of a sentence that its aspectual class is fully apparent. The question Dowty (1986:40) wants to ask then is: if the compositional model-theoretic interpretation of the sentences in discourse is determined only after a discourse representation has been constructed, and if it is only in the model-theoretic interpretation that the aspectual class of a sentence is fully apparent, then how can aspectual class have an effect on how the temporal relationships between sentences are represented in the DR?

Dowty presents an alternative account of temporal semantics, one in which discourse semantics depends on sentence semantics and pragmatic principles. According to him, temporal relationships between adjacent sentences depend on three things:

1. the semantic analysis of aspectual class
2. a single principle for the interpretation of successive sentences in a discourse

⁴Processes, such as *push the cart* or *play the piano* are not assumed to move the narrative, either. However, as we shall see in Chapter Three, since processes are dynamic, they behave differently to states.

⁵The fact that the aspectual perspective of a sentence is determined compositionally has been pointed out by e.g. Verkuyl (1972). I shall return to this issue in Chapter Three.

3. a large dose of Gricean (Grice, 1975) conversational implicatures.

Dowty then posits the following single principle:

(9)

TDIP = The Temporal Discourse Interpretation Principle

Given a sequence of sentences $S_1, S_2 \dots S_n$ to be interpreted as a narrative discourse, the reference time of each sentence S_i (for i such that $1 < i < n$) is interpreted to be:

- a. a time consistent with the definite time adverbials in S_i if there are any;
- b. otherwise, a time which immediately follows the reference time of the previous sentence S_{i-1} .

In other words, the TDIP states that each new clause will *always* be interpreted at a new reference time 'immediately after' that of the previous clause: not only events, but also states and processes, set up a new reference time. Thus, Dowty claims that the TDIP applies equally to (10) and (11):

- (10) a. John entered the office.
b. The president got up.
- (11) a. Mary entered the president's office.
b. There was a bound copy of the president's budget on his desk.

Dowty argues that the TDIP tells us that the time of the budget's being on the president's desk was immediately after Mary entered the room, but that we are expected to *assume* in addition that this was not the first moment that it was there. The time does not move in the stative sentence but according to Dowty this does not pose a problem for his account for the following reasons:

1. The duration which the hearer assigns to successive times in a discourse depends on assumptions about the normal real-world duration and spacing of events.
2. Scene-describing statives can be interpreted as if they were the perceptual observations that a hypothetical human observer would make in the situation described.
3. There are occurrences of statives in a discourse where the state is not interpreted to overlap with the previously described event, as in (12):

- (12) a. John sat in his chair going over the day's perplexing activities.
b. Suddenly, he was asleep.

As (12) illustrates, the TDIP allows, but does not require us to assume that a state overlaps an event. So according to Dowty, the inferences we draw in a narrative about how states of affairs are ordered temporally are not merely a consequence of the times at which the states of affairs are *asserted* to be true, but also of the times at which we *assume* they obtain. Thus, Dowty's notion of 'reference time' is a two-fold parameter.

One problem inherent in both Partee's and Dowty's theory concerns the notion of "immediately after". Partee (1984) has argued that tense in discourse is *anaphoric* in the sense that a tensed clause is interpreted with respect to an event specified by another clause; for instance, the event described in (10b) is interpreted as occurring "just after" the event referred to by its antecedent clause, (10a). Webber (1987) has elaborated on this relation, arguing that a tensed clause event refers to a temporal entity that is *implied* by, rather than explicitly mentioned, in the previous discourse. According to Webber, then, the second event is *strongly associated* with the first event, by which it is implied. Webber further claims that there is a parallel between the anaphoric nature of tenses and that of definite nominal descriptions. For instance, in (13)

- (13) a. We unloaded the picnic.
 b. The beer was warm.

the NP, *the beer*, is assumed to be "strongly associated" with the discourse entity specified by its antecedent, *the picnic*. Similarly, e.g. the tense in (10b) is assumed to refer to an event that is implied by its antecedent, viz. the event referred to by (10a).

However, as e.g. Caenepeel (1989) has pointed out, Webber's "strongly associated" is no less vague than Partee's and Dowty's "just after" concept: we may well ask whether "being strongly associated with" merely denotes a pragmatically determined "just after" relation.

What Caenepeel suggests then is that the link perceived between successive events also embraces another kind of connection, one which is not purely temporal. As we have seen, all the above-mentioned approaches are based on the assumption that events in a narrative happen in a strict succession, but are not related to one another in any other way. However, there is an alternative view, fashionable especially in the fields of Cognitive Science and Artificial Intelligence, according to which the semantics of temporal expressions is *not* directly related to the *linear* time concept.

For instance, Moens (1987) and Moens and Steedman (1988) have argued that

events should not be seen as non-divisible entities, but they can be associated with various phases, which play a crucial role in the temporal interpretation of narratives. They propose a tripartite *event structure*, a *nucleus*, consisting of a *preparatory* phase, a *culmination* and a *consequent* phase. Moens and Steedman (1988) use then the notion of *contingency* to account for the movement of the temporal focus in discourse. Specifically, they claim that this nontemporal relation between clauses can be a causal relation, as in (14), or an enablement relation, as in (15):

(14) Mary left (e1) and John cried (e2).

(15) Mary walked out (e1)
and shut the door behind her (e2).

Thus, according to Moens and Steedman, in both cases the two clauses are contingently related, which means that *e1* is associated with "relevant consequences" and *e2* is placed within them; hence, the narrative is interpreted as moving forward. The difference between (14) and (15) is that in the former case, the first clause event is interpreted as *causing* the second clause event, while in the latter case the first clause event is interpreted as merely *enabling* the second clause event.⁶

Caenepeel (1989), who has applied Moens and Steedman's theory to the temporal interpretation of narrative fiction, also analyses contingent *states* in examples like the following:

(16) a. John was feeling cold. (e1)
b. He put a jumper on. (e2)

According to Caenepeel, a state can be followed by an event which is contingently related to it (i.e. caused by it). In the case of (16), then, *e1* is associated with consequences, and *e2* is placed within them. Hence, the narrative is again interpreted as moving forward.

Webber's later model (Webber, 1988) is based on the tripartite event ontology proposed by Moens and Steedman. As she points out, one problem inherent in the DR-model is that it is unable to account for examples of the following kind⁷:

(17) a. Bob went to London last night.
b. He took his favourite teddy bear with him.

⁶Of course, this is only one possible interpretation of (14); if no contingency link can be detected between the two clauses, the ordering can be considered to be indeterminate.

⁷Indeed, Dowty (1986) acknowledges that his system suffers from the same problem, since the TDIP requires that the asserted and assumed reference times coincide in the case of event clauses.

Both (17a) and (17b) are event clauses; however, it is obvious that (b) does not introduce a temporal update, but denotes a subevent of the event referred to by the (a)-clause. Webber (1988) claims then that because her model incorporates the notion of event structure, it is able to handle examples like (17): in her system the (b)-clause is assumed to refer to the *preparatory* phase associated with the (a)-clause.

Another type of modification to the above-mentioned discourse models is proposed by Cooper (1986), who adds a *spatial* dimension to the temporal model. Cooper bases his theory on some of the principles of Situation Theory (cf. e.g. Barwise and Perry (1983)), introducing the following basic notions.

The first notion is that of *location*, which represents a region of space-time. Cooper argues that in the analysis of the semantics of certain tenses we need to refer not only to intervals of time or moments, but also to spatial locations. For instance, the "sports reporter" sense of a sentence like *John runs to the goal* involves an event not only happening at the moment of discourse but also at the place of discourse.⁸

Second, we have the notion of *situation* or *state of affairs*, which is a located situation type, i.e. a pair consisting of a location and a situation type. A special kind of pair represents the *discourse location*, viz. a pair consisting of the location of the utterance and the situation type of the utterance.

The third notion is that of *history*, which is a set of (related) states of affairs. A history may, for instance, consist of the events referred to by a set of consecutive clauses in a narrative. Moreover, Cooper argues that time can be used to induce a partial ordering on such a history.

The final notion relevant to the present discussion concerns *connections*, which are types of assignment function used, among other things, to assign locations to tensed verbs. According to Cooper, connections provide us with an additional way of relating verbs to the world; the interpretation of a tensed verb will only give us a relation (e.g. past vs. present), but the connection will give us a location in space-time where this relation is to be considered.

What Cooper (1986) is interested in is the different behaviour of event and state (including progressive) sentences. The main difference is that statives are independent of space and time in the sense that a stative relation does not hold between two entities in any particular place or time; rather, the location the state

⁸In more recent work in Situation Theory (cf. e.g. Crow, 1990 and Devlin, 1990), space and time are assumed to be two distinct dimensions. I shall return to this issue in Chapter Six.

refers to can be regarded as spatio-temporally universal. Similarly, in the case of progressive states the connection to the verb may be included in a larger event location, while for accomplishment verbs the event location must be the same as the connection to the verb.⁹ Cooper proposes then the following *Discourse Strategy* for narrative movement:

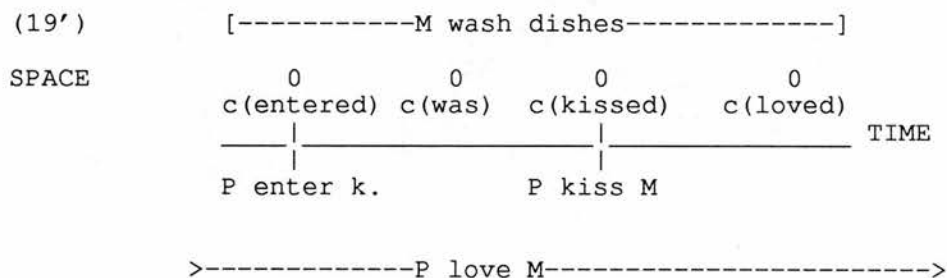
(18)

Move forward the connection for tensed verbs in main clauses as the discourse progresses.

It is important to note that the strategy talks about the connection to tensed verbs and not directly about the event location. Thus, statives can be consistent with the strategy because moving forward the connection for a stative does not have to move forward the event location. Consider the following example:

- (19) a. Pedro entered the kitchen. (accomplishment)
 b. Mary was washing the dishes. (state)
 c. He kissed her. (accomplishment)
 d. He loved this woman. (state)

(19a) moves the event location forward; in (b) the connection to the verb is included in a larger event location; (c) again moves the event location, while the state described in (d) holds at the spatio-temporally universal location. The history described in (19) can then be represented diagrammatically as follows:



Moreover, although the strategy in (18) does not require that a stative sentence move the event location forward, it may nevertheless do so.¹⁰ Consider, for instance, the following:

⁹This is, of course, another way of describing the difference between the progressive and simple forms, which in Reichenbach's system is represented as follows:

The simple past: ET=RT
 The past progressive: ET⊃RT

In other words, in the case of the simple past ET corresponds RT, while in the case of the past progressive, ET includes RT. I shall discuss this further in Chapter Two.

¹⁰Cooper's Discourse Strategy is, of course, in principle very similar to Dowty's TDIP.

- (20) a. Jameson switched off the light.
b. It was pitch dark around him.

in which the state referred to by the (b)-clause is not interpreted as overlapping, but succeeding, the event described in the (a)-clause.

1.2. Aims of the Thesis

1.2.1. Introduction

We have already encountered one criticism of the DR-model; viz. Dowty (1986) claims that the aspectual class of sentences, on which the ordering of events in discourse depends, is determined by their compositional semantic interpretation, and not by syntax; furthermore, since in the DR theory the compositional model-theoretic interpretation is determined only *after* a DRS has been constructed, the DR-level seems to be entirely redundant.

Another problem, which is more important from the point of view of the present thesis, concerns the notion of 'reference time'. This notion, as employed in the DR-model, is highly problematic; in particular, as we shall see in Chapter Two, it does not allow us to separate the meaning and function of tenses, i.e. semantics and pragmatics.

The distinction, and interaction, between semantics and pragmatics will be a major theme running through the thesis. It is self-evident that pragmatic information (knowledge of the world and/or knowledge of the discourse structure) is required not only for determining the aspectual class of sentences (cf. example (12) above), but also for determining the ordering of event clauses (cf. 17). These sorts of counter-examples to the basic ordering rule mentioned above have led linguists to formulate some extremely vague pragmatic principles influencing the temporal interpretation of discourse. For instance, Dowty (1986) speculates that the TDIP might be subsumed under very general "conversational principles". Similarly, Hinrichs (1989) admits that the DRs have to make use not only of syntactic, but also of "extra-linguistic information", including knowledge of events and subevents.

However, although it is clear that such extra-linguistic information and conversational principles do play a role in the determination of the temporal ordering of events in discourse, it seems to me that these sorts of pragmatic approaches do not take sufficiently into consideration the semantics of tensed clauses; furthermore, they do not appear to provide a satisfactory account of the interaction of semantics and pragmatics.

For instance, as Caenepeel (1989) has pointed out, Dowty's claim that sequences of stative and activities can be interpreted as mimicking the temporal sequence of the perceptions of a language processor is problematic on two accounts. First, it is clear that noncontingent states are always interpreted at a fixed reference time, as the following illustrates:

- (21) a. My name is Frances Hinton and I do not like to
be called Fanny.
b. I work in the reference library of a medical
research institute dedicated to the study of
problems of human behaviour.
c. I am in charge of pictorial material....

(This example is from Anita Brookner, *Look at Me*: 5, via Caenepeel (1989)).

Second, and more importantly, if we assume that all stative sentences represent the successive perceptions of the reader/hearer, we cannot separate exceptional cases, in which statives are used to move the narrative time, as in (22), from default cases, in which statives are interpreted at a fixed reference time, as in (23):

- (22) a. ... and she was actually under the Abbey walls,
b. was springing, with Henry's assistance, from
the carriage,
c. was beneath the shelter of the old porch ...

(From Jane Austen, *Northanger Abbey*: 167, via Caenepeel (1989)).

- (23) a. The servant girl was in their room,
b. singing loudly while she emptied soapy water
into a pail.
c. The windows were open,
d. the shutters put back,
e. and the the light glared in.

(From Katherine Mansfield, *The Man without Temperament*: 8, via Caenepeel (1989)).

The claim made in this thesis is then that the crucial factor influencing the temporal interpretation of narratives is whether or not a clause is presented/interpreted as denoting a *terminated* event. Furthermore, the interpretation is assumed to be determined to a large extent by the inherent aspectual type of the predicates involved.

Another major problem associated with Partee's (1984) and Webber's (1987, 1988) theories relates to their definition of temporal anaphora; specifically, in their systems, semantic and discourse anaphora are confused. What I am going to claim is that at the semantic level tenses can be divided into deictic (autonomous) and anaphoric (nonautonomous), and that the notion of 'semantic anaphor' should be clearly distinguished from the notion of 'discourse anaphor'.

Similarly, although the contingency-based models of narrative movement proposed by Moens and Steedman (1988) and Caenepeel (1989) appear to be able to account for the data better than the other models, I shall contend that these models, too, fail to separate different levels of representation. Specifically, there is no clear distinction between nontemporal (pragmatic) and (spatio-)temporal (semantic) relations; in particular, the notion of causality is not distinguished from the more basic notions of location and movement.

Another difference between the above models and the sort of model proposed by me is that the former concentrate on *temporal* relations, whereas my claim is that we cannot discuss the semantic structure of narratives without taking into account *spatial* relations, too. Consequently, Cooper's (1986) theory seems attractive to me in that it adds a spatial dimension to the temporal model. However, from the point of view of the current thesis it is associated with the following problems.

First, Cooper talks about (connected) regions of space-time; in my theory, by contrast, spatial and temporal locations have to be separated (see, however, footnote 8). Second, according to Cooper, time is used to induce an ordering of events; my claim is that spatial relations are more basic than temporal ones; hence, movement of time presupposes movement in space, and not *vice versa*. Third, Cooper fails to elaborate on the difference between contingent and noncontingent states: only the latter are independent of space and time.

To sum up, the main purpose of this thesis is to examine the spatio-temporal structure of narratives. The two main claims are:

1. It is necessary to separate semantics and pragmatics in order to study their interaction.
2. The basic semantic relations are *spatial*:
 - We can distinguish spatial and temporal locations;
 - Spatial relations are more basic than temporal ones.

I shall now discuss each of these claims in more detail.

1.2.2. Semantics and Pragmatics

Throughout the thesis, I attempt to keep semantics and pragmatics separate, as far as possible. This does not mean, however, that I am only interested in one or the other; my contention is that in order to study the interaction of the two, we naturally have to distinguish them first.

By "semantics" I do not mean traditional truth-conditional semantics, but what I call 'perceptual' semantics (see e.g. Nakhimovsky, 1988). This type of approach attempts to address the following two issues: (1) How semantic distinctions are perceived by human beings, and (2) how these distinctions are reflected in language use. For example, I shall assume that the distinction between activities and states does not relate to subinterval properties (cf. Dowty, 1979), but to abstract notions, such as 'perceived energy'. Similarly, the *durative-punctual* distinction is not assumed to relate to the actual duration of an event in the 'real' world, but to the internal structure of the two event types, and to the grammaticalisation of these conceptual distinctions.

In my system, then, semantics sets the limits on the use of linguistic constructions. For instance, semantics can be used to determine the *default* readings for sentences. Furthermore, it can be used to explain the differences in the degrees of acceptability of sentences containing predicates which belong to different aspectual classes; hence, it explains the difficulties involved in processing sentences violating certain semantic rules.

By "pragmatics" I mean the use of context (extralinguistic information), as well as cotext (extra- and intersentential information) in the following cases. First, the context can be used to determine the most plausible reading, i.e. to disambiguate between alternative interpretations. Second, it can be used to *change* the interpretation of certain semantic categories so that a sentence which would be judged unacceptable when occurring in isolation, can be made acceptable in an appropriate context.

I see then the interaction between semantics and pragmatics as a two-way process: semantics sets the limits on pragmatics, and pragmatics extends semantics.

Consequently, I am not interested in a pure semantics which does not allow contextual factors to be taken into consideration when determining the interpretation of sentences. Neither am I interested in the sort of purely pragmatic approach according to which there is little point in stating semantic generalisations since the acceptability of a sentence depends exclusively on contextual and stylistic factors. I am, therefore, against some of the wilder claims made by the adherents of the Basic Meaning Theory, some of whom hold onto the claim that "each grammatical form conveys a single invariant meaning" (King, 1984:113) to the extent that they do not even acknowledge the relevance of the stative-dynamic distinction in determining the meaning of tense/aspect forms.

What I am going to claim is that some simple past sentences are inherently autonomous (deictic); i.e. because of the meaning of the predicates they contain,

they have to be interpreted as denoting a *terminated* event, and, consequently, are assumed to introduce a new temporal entity in the discourse model. Whether or not they are interpreted as succeeding, preceding or overlapping a previously introduced event, is *pragmatically* determined; however, the function of tensed clauses in discourse should be distinguished from their inherent meaning.

I shall also claim that there are sentences which are inherently nonautonomous (anaphoric); i.e. sentences which are *not* interpreted as referring to a terminated event. My contention is then that nonautonomous sentences do not introduce a temporal entity, but are interpreted with respect to a previously/subsequently specified entity, and furthermore, that the *default* value for stative sentences is nontermination.

Another consequence of the semantics-pragmatics distinction is that I differentiate between *semantic* and *discourse* anaphora. 'Semantic anaphors' are assumed to refer to semantically incomplete spatio-temporal (anaphoric) expressions, which have to be interpreted with respect to a spatio-temporal antecedent, while 'discourse anaphora' refers to the intersentential relations (e.g. precedence and succession) between spatio-temporally complete (deictic) clauses. (Of course, as we shall see in later chapters, it may not always be possible to make a clear-cut distinction between semantic and discourse anaphora).

1.2.3. *Spatial and Temporal Relations*

My theory is presented within a localist framework: I assume that the basic semantic relations are *spatial* in nature, and can be described in terms of *movement* and *location*. Moreover, these localistic notions can be discussed at different levels of analysis. For instance, we can discuss the distinction between motion and nonmotion *predicates*; we can also talk about a subject (first-order entity) being located inside an event or a state, or moving to(wards) a goal; and finally, we can talk about an event (a second-order entity) being located in time or moving along time.

The most important notion in my theory is that of 'motion event', represented by MOVE- and BE-predicates. In rough terms, MOVE-sentences are spatio-temporally autonomous, and can be used to move the narrative forward, while BE-sentences are anaphoric, and have to be interpreted with respect to an antecedent provided by a clause in the subsequent/preceding context.

I also make a clear distinction between spatio-temporal and other semantic relations. The main claim is that spatio-temporal relations subsume all other semantic relations; the latter are secondary to the former. Hence, for instance, a

causality relation between two clauses is 'parasitic' on their spatio-temporal relation (overlap vs. non-overlap).

Furthermore, I assume that spatial relations are more basic than temporal ones in the sense that the latter are analysed at a higher level of semantic structure than the former. For one thing, individuals (first-order entities) cannot be located directly in time, while events (second-order entities) can (cf. **John was last Sunday* vs. *John was in London last Sunday/The demonstration was last Sunday*). Similarly, the passage of time correlates with movement in space; hence, the shifting of the temporal focus in narrative depends crucially on the shifting of the spatial location. Finally, when analysing spatio-temporal expressions in Finnish, it is necessary to distinguish *spatial* and *temporal* anaphora; the former are more basic than the latter in the sense that an expression which is spatially anaphoric is also temporally anaphoric, but not *vice versa*.

In my theory, like in recent work in Situation Theory (cf. e.g. Crow, 1990, and Devlin, 1990), space and time are assumed to be distinct, though interrelated, dimensions. There are, however, two major differences between the notion of 'spatial location' in Situation Theory and the one proposed in this thesis. First, as we have seen, spatial relations are assumed to be more basic than temporal ones. Second, my notion of 'spatial location' includes not only abstract categories relating to mental or physical states, but also abstract linguistic categories, such as telic processes and absolute states. I claim then that (1) it is possible to treat concrete and abstract relations in a unitary fashion, and (2) it is the interaction of these two types of relations that has special relevance to the temporal interpretation of narratives.

1.3. Data and Methodology

The data consists of both isolated sentences and sentences in discourse context. Most of the examples are invented; however, in Chapter Seven I discuss 'real-life' examples, taken from narrative fiction. One type of *nonfinite* construction, viz. the participle, is examined. However, subordinate clauses, with the exception of temporal clauses, are beyond the scope of this thesis. Thus, I shall not discuss *indirect* discourse, as its temporal structure is different from that of direct discourse (see e.g. Rohrer, 1985, and Lo Cascio and Rohrer, 1985).

When discussing the literature on tense and aspect, I tend to concentrate on English data; by contrast, when developing my own theory I focus on data from Finnish as Finnish grammaticalises aspectual distinctions to a far greater extent than e.g. English does. The fact is that the English tense and aspect system is not

very interesting from the point of view of this thesis; hence, Finnish can be used to throw light on many of the semantic distinctions which remain notional in English. What is more, Finnish is particularly appropriate for my purposes as it is a case language which uses overtly locative constructions to express abstract aspectual distinctions.

We can say then that in many instances Finnish is used as an *analytical tool*. It should be noted, however, that my main aim is *not* to offer a comprehensive descriptive account, nor a contrastive study of the two languages. However, a partial descriptive/contrastive account may emerge as a 'by-product' of the discussion.

Another thing to note is that although I discuss sentences in context I do not claim to offer a full discourse analysis of tense and aspect; many discourse phenomena (including 'topic', and 'focus'), if mentioned at all, are only touched upon.

1.4. Outline of the Thesis

In **Chapter Two**, the *temporal* dimension of my system is introduced. A three-way division of (semantic) tenses is proposed: the first division is between autonomous (deictic) and nonautonomous tenses, and the latter are further divided into hybrid and anaphoric tenses. It is claimed that deictic tenses specify a temporal entity autonomously; nonautonomous tenses are related to an abstract reference point, and the difference between hybrid and anaphoric tenses is that the former, unlike the latter, specify a temporal entity.

Furthermore, *semantic* and *discourse* anaphora are distinguished: the former refers to the intrinsic nature of nonautonomous tenses, while the latter refers to the intersentential relations (e.g. succession) between deictic tenses in discourse. It is argued then that these two kinds of anaphora are often confused in current models of tense in text, and moreover, that the Reichenbachian notion of 'Reference Time' has proved to be a major source of confusion in this connection.

In **Chapter Three** I take a closer look at autonomous and nonautonomous sentences, examining the interaction of the inherent aspectual class of predicates; the grammatical aspect of sentences (perfective vs. imperfective), and the aspectual perspective of sentences in discourse (taking into account pragmatic factors). The most important questions are: (1) how does perfectivity relate to the notions of 'completion' and 'termination', and how do these notions in turn relate to 'telicity'; (2) what is the relevance of the punctual-durative distinction?, and (3) how can we

analyse the stative-dynamic distinction both at the lexical and sentence levels? The notion of dynamicity proposed here is broader than is commonly assumed: it includes not only traditional activity predicates like *run* and *read*, but also predicates like *sit* and *lie*.

In **Chapter Four**, Finnish is used to throw light on the abstract semantic distinctions drawn in the previous chapter; specifically, I discuss the grammaticalisation and lexicalisation of the notions of termination, telicity and punctuality. Two locative constructions, the Inessive of the Third Infinitive, and the Essive, denoting 'contingent' states are introduced here. It is claimed that both of these constructions are acceptable only if they refer to situations with potential boundaries, or are related to a clause providing such a boundary.

In **Chapter Five**, the interaction between tense, aspect and mood is discussed; specifically, I examine the grammaticalisation and lexicalisation of three abstract aspectual categories, viz. the Progressive, Prospective and Ablative. It is argued that the Reichenbachian system of tenses cannot represent adequately forms such as the present perfect and the future progressive since they have modal connotations, and require a two-level analysis.

The notion of *event structure*, consisting of a preparatory state, culmination and consequent state, is introduced here. Three kinds of preparatory and consequent states are distinguished: semantic, pragmatic and modal. Finnish is again used to illuminate the semantic distinctions which often remain notional in English, the emphasis being on the aspectual nature of the prospective form, and the modal nature of the present perfect form.

In **Chapter Six**, I add a *spatial* dimension to the model discussed so far. The basic notions of localism are introduced, and a localistically oriented account of tense and aspect is proposed. The main claim is here that spatial relations are more basic than temporal ones.

Two kinds of predicates are then introduced: roughly speaking, MOVE-predicates refer to the subject's movement through space, while BE-predicates describe the subject's location in space. It is further argued that both MOVE- and BE-sentences can also refer to abstract movement or location; for instance, location in, or movement into, mental states or telic processes.

It is further claimed that some Finnish aspectual constructions denoting contingent states are not only temporally, but also spatially anaphoric, and have to be related to a spatial antecedent to be fully interpretable. Moreover, it is clear that spatial anaphora are more basic than temporal anaphora; a spatially anaphoric clause is always temporally anaphoric, but not *vice versa*.

In **Chapter Seven** the spatio-temporal structure of narratives, especially the notion of narrative movement, is discussed in more detail. It is argued that all other semantic relations (e.g. causality relations) are secondary to spatio-temporal relations. Two kinds of constructions, *when*-clauses and participial clauses, are examined in support of the argument.

In this chapter, I am mainly concerned with the spatio-temporal structure of Finnish narratives. The focus is on the interrelations between spatial and temporal anaphors, and on the interaction of concrete and abstract movement or location. I also offer a semi-formal system for representing the spatio-temporal structure of Finnish sentences, in which the motion events, represented by MOVE- and BE-predicates, and their spatial and temporal relations constitute the primitives. A short piece of narrative is analysed according to this system.

Finally, **Chapter Eight** concludes the thesis with an overview of the aspectual systems in Finnish and English, and suggestions for further research.

Chapter Two

Deictic and Anaphoric Tenses

2.1. Introduction

Tense is generally assumed to be a *deictic* category: it grammaticalises the relation between the time of the situation referred to in the sentence and the time of utterance; in other words, tense locates the situation in the present, past or future, relative to the utterance time (cf. e.g. Lyons, 1968; Lyons, 1977; Anderson, 1972; Anderson, 1973, and Comrie, 1985).

Comrie (1985) further classifies tenses according to the kind of deictic centre they are related to. Thus, Comrie talks about **absolute** tenses, which have the present time as their deictic centre, and which include all the simple forms (past, present and future), as well as the progressive form. Second, there are **relative** tenses, i.e. tenses which have a deictic centre other than the present moment. According to Comrie, purely relative time reference is restricted to non-finite clauses (at least in English), such as the participial clause in (1):

- (1) Those sitting on the benches were forced to move.

Thus, on one interpretation, the present participle *sitting* in (1) indicates present time reference with respect to a past reference point given in the main clause. Finally, we can talk about **absolute-relative** tenses, whose meaning combines absolute time location of a reference point with relative time location of a situation. These include the so-called perfect tenses (past, present, and future). The reference point of such an absolute-relative tense either precedes or follows the present moment, and the situation described by the tense is interpreted as preceding or following that reference point.

Lyons (1977) does not identify different deictic centres, but draws a distinction

between **primary** and **secondary** tenses in this connection. According to him, the former, which include the simple tenses, are based on deixis, while the latter are derived from the former. The past perfect is an example of a secondary tense: it expresses anteriority with respect to a reference point which is anterior with respect to the utterance time.

Lyons also argues that tense should not be regarded only as an *inflectional* category of the verb, but also as a *semantic* category of the whole sentence. He points out that unlike deictic adverbs with temporal reference (e.g. *today*, *last week* and *now*), tense as a grammatical category is not a universal feature of language. Thus, tense, together with deictic and clock-calendar adverbials, provide the means for drawing deictic temporal distinctions.¹

Anderson (1972) agrees with Lyons, suggesting further that (morphosyntactic) tense is merely "a reflexion of concord with an appropriately specified adverb, which may be deleted in certain circumstances" (Anderson, 1972:193). So past tense sentences lacking a temporal adverbial (e.g. when the temporal axis in the past has already been established) are assumed to contain a temporal adverb ('at that time'), which is deleted in the surface structure. In other words, both tense markers and temporal adverbials show a [+,- past] distinction in time reference, although so-called calendar temporals like *at 3 pm* and *in November* are neutral in this respect.

The deictic character of tense seems obvious in the case of temporally independent clauses, i.e. single sentence utterances whose temporal expressions are interpreted with respect to the time of utterance. It is equally obvious that tense functions rather differently in discourse, which is why in recent accounts of tense in text, the emphasis has been on its *anaphoric* quality. (It is, however, important to realise that it is assumed in these accounts that although tense has deictic uses, it can be used anaphorically even in temporally independent sentences).

The first explicit reference to tense being anaphoric like a definite pronoun is in an article by McCawley (1971:110):

"the tense morpheme does not just express the time relationship between the clause it is in and the next higher

¹Temporal adverbials can be divided into three main classes (cf. e.g. Smith, 1981, and Bach, 1981):

1. Deictic: *today*, *now*)
2. Clock-calendar (also termed *Frame*, or *Neutral* adverbials):
 - a. Interval: *in 1978*, *on Friday*
 - b. Point: *at 4 pm*
3. Dependent (Anaphoric): *two hours later*.

clause - it also refers to the time of the clause that it is in, and indeed, refers to it in a way that is rather like the way in which personal pronouns refer to what they stand for"

McCawley also examined the interpretation of tense in narratives. According to him, the event described in one clause serves as the antecedent of the event described in the next, and moreover, it may be related to that event by occurring at the same time or "shortly after" it. However, McCawley left it to other theorists to elaborate both on the parallels between nominal and temporal anaphora, and on the temporal interpretation of narratives.

A detailed discussion of the similarities between tenses and pronouns has been offered by Partee (1973), who points out that just like pronouns, tenses have both deictic and anaphoric uses. Thus, a past tense may be used to refer to an understood particular time (i.e. a time *salient* to the hearer) not introduced by previous linguistic context, as in (2a); a similar (deictic) use of a pronoun can be seen in (2b), (uttered as the first sentence of a conversation):

- (2) a. I didn't turn off the stove.
b. She left me.

According to Partee, the past tense in these uses behaves like a third person pronoun, while a genuinely temporal present tense in a simple sentence behaves like a first person pronoun, the former referring to the speech time, and the latter to the speaker.

Partee also discusses the anaphoric uses of both pronouns and tenses. Consider the examples in (3):

- (3) a. Sam is married.
b. He has three children.

This is the paradigm case: there is an antecedent NP that refers to a particular individual, and a subsequent pronoun which refers to the same individual. There are several parallels with such cases in the temporal domain:

- (4) a. Sheila had a party last Friday, and Sam got drunk.
b. When John saw Mary, she crossed the street.
c. At 3pm, Mary had a brilliant idea.

In (4a) the second clause is understood as referring to the same time as the first clause; in (4b) the *when*-clause provides an antecedent for the past tense of the main clause, while in (4c) the temporal adverb *3 pm* may be viewed as the antecedent of the past tense. Thus, the antecedent for a tense can be found either in the same clause as the anaphor, or in the preceding (or subsequent) discourse context.

However, in a later article (Partee, 1984) Partee modifies her claim regarding the parallels between nominal and temporal anaphora. She points out that taking simple past tense as directly analogous with pronouns is incompatible with the usual forward movement of time in a sequence of sentences denoting events. (As Partee (1984:256) puts it: "it would be as if pronouns referred to the *father* of the last mentioned individual!"). Consider the example in (5) in this respect:

- (5) a. Mary walked in,
b. and sat down.

Generally speaking, an anaphoric pronoun is considered to be co-referential with its antecedent NP.² The problem is then that although the tense of (5b) is interpreted with respect to the tense of (5a), the two do not co-refer; instead, the former specifies an event time which follows the time specified by the latter. Partee argues, therefore, that tenses cannot strictly speaking be characterised as anaphoric, but rather, *context-dependent*.

Partee also claims that tenses do *not* 'refer' to times the way pronouns refer to entities. One relevant fact is that because of the categorial variety of the expressions involved (tenses, adverbials, aktionsart, etc.), temporal anaphora are more subtle than nominal anaphora. So although tenses are context-dependent and, like pronouns, can be construed with both linguistic and non-linguistic antecedents, they do not appear to refer to times to the degree that pronouns refer to individuals.

A different approach is adopted by e.g. Webber (1983), (1987) and (1988), who claims that tense is not just loosely context-dependent the way Partee has suggested, but is similar to an anaphoric definite NP. (A similar view is held by e.g. Sidner (1983) and Hirst (1981)). In Webber's model, there are the following two possibilities for the interpretation of discourse anaphors in the nominal domain. First, NP_a (e.g. *a tie* in (6a)) **evokes** and **specifies** a discourse entity, and NP_b (*it* in (6b)) **co-specifies** E_a.³

- (6) a. Kevin gave Bob a tie.
b. It was pure silk.

Second, NP_b (*the driver* in (7b)) uses an existing discourse entity E_a, evoked and specified by NP_a (*bus* in (7a)), to evoke and specify a discourse entity, E_b:

²4. Co-reference between antecedent and anaphor is not an essential property of anaphora in general. It arises only when both terms in the anaphoric relation are used referringly, and in many cases of anaphora, one or both terms are not so used. Consider, for instance, the following:

He did it better than he had done before.

³'Evoking' means introducing a new entity into the listener's discourse model, and 'specifying' means establishing its reference. Two NPs 'co-specify' an entity if they refer to the same entity in the discourse model.

- (7) a. A bus came round the corner.
b. I signalled to the driver to stop

Webber then specifies an anaphoric function α , whose value, given the anaphoric noun phrase NPb, and the discourse entity Ea, is Ea in the case of (6), i.e. $\alpha(\text{NPb}, \text{Ea}) = \text{Ea}$; and Eb in the case of (7), i.e. $\alpha(\text{NPb}, \text{Ea}) = \text{Eb}$.

In Webber's model, then, tense is assumed to be anaphoric in this less restricted sense as its interpretation is linked to an event time derived from the discourse context. For example, in her system the tense in (5b) is anaphoric because it is interpreted with regard to the time established by the tense in (5a); in other words, (5b) uses the event evoked by the tense of Ea to evoke and specify a new discourse entity, Eb. This can be formally represented as $\alpha(\text{Cb}, \text{Ea}) = \text{Eb}$, where Cb is a tensed clause. Thus, in Webber's model, strict co-reference is not an essential property of either nominal or temporal anaphora.

To sum up, we have identified the following two positions regarding the anaphoric quality of tense in text:

1. Tense has both deictic and anaphoric uses; however, tense is not anaphoric in the same way as pronouns since it is not (always) co-referential with its antecedent. (Partee, 1984)
2. Tense is anaphoric since its interpretation is dependent on some other discourse entity specified in the preceding/subsequent discourse context. (Webber, 1988)

There is another possibility which I shall elaborate in the remainder of this chapter. What I wish to argue is that some tenses are inherently deictic (i.e. related directly to the utterance time) and others inherently anaphoric (i.e. related to the utterance time via a reference point). Thus, I make the following two claims:

1. At the *semantic* level, tenses can be divided into deictic and anaphoric, and
2. The notion of tense as semantic anaphor should be distinguished clearly from the notion of tense as discourse anaphor.

2.2. Deictic and Anaphoric Tenses

One theorist proposing a distinction between deictic and anaphoric tenses is

Houweling (1985), who argues that in a narrative **temporal deixis** is used to move the story forward, while **temporal anaphora** is employed to describe the story at a previously established time. Furthermore, Houweling claims that temporal deixis and temporal anaphora are expressed by perfective tenses and imperfective tenses, respectively.⁴

A prime example of an anaphoric tense is the English past progressive:

(8) !Kevin was cooking.

(where the exclamation mark indicates that the sentence is semantically incomplete). Houweling claims that (8) is not interpretable temporally without context/cotext since it contains an anaphoric tense which does not specify a time but has to be interpreted with respect to a time specified by another clause. These sort of anaphoric tenses Houweling calls **non-autonomous**. They are to be contrasted with **autonomous** tenses, such as the following English simple tenses:

(9) a. Kevin will arrive tomorrow.
b. Trevor left last night.

Houweling claims then that the clauses in (9) can "stand on their own" since both of them contain a deictic tense which establishes a temporal relation directly with the speech time; in other words, it specifies a temporal interval independently of discourse context.

According to Houweling, the past perfect is another non-autonomous tense, as is the conditional ('future-in-the-past'):

(10) a. Kevin had read the book.
b. Trevor would read the book later.

Houweling claims that like (8), the clauses in (10) are not fully interpretable without an antecedent; they do not establish a direct relation with the speech time, but are interpreted with respect to some secondary temporal reference point. However, they differ from (8) in one important respect: they identify a specific time, i.e. a time other than that identified by their antecedent.

Thus, Houweling divides tenses into **autonomous (deictic)** and **non-autonomous**: the former occur autonomously, while the latter have to be anchored to a reference point provided by another clause. Non-autonomous tenses

⁴Houweling is concerned exclusively with Italian, which, unlike e.g. English, grammaticalises the imperfective-perfective distinction. This is why he is able to divide tenses into deictic and anaphoric at the morpho-syntactic level. When analysing the temporal meaning of English tense morphemes, we need to take into account *semantic* factors, such as the inherent aspectual class (aktionsart) of predicates.

are further divided into **hybrid** and **anaphoric**: the former refer to a specific time, while the latter obtain their temporal reference from an antecedent. Thus, we get the following classification of tenses:

- (11) DEICTIC: simple present⁵
 simple past
 simple future
 present perfect (in e.g. Italian)
- ANAPHORIC: past progressive
 imperfective (in e.g. Italian)
- HYBRID: past perfect
 future perfect
 conditional

Houweling also discusses the parallels between tenses and nominals. Consider the examples in (12):

- (12) a. Kevin is well; I saw him yesterday.
 b. Kevin is well; I saw his mother yesterday.
 c. !I saw his mother.
 d. !I saw him.

In (12a) *Kevin* identifies an entity, and *him* is anaphoric with respect to it. The second clause is uninterpretable without the first, as is illustrated by (12d). In (12b) *Kevin* identifies an entity, and so does *his mother*, but again the second clause is uninterpretable without an antecedent (cf. 12c). Thus, *his mother* seems to represent a *hybrid* non-autonomous NP.

Houweling argues then that the commonly held view that *all* tenses are anaphoric is incorrect: only a subset of non-autonomous tenses can be regarded as truly anaphoric. In fact, Houweling's system is very similar to the tense system proposed by Comrie (1985). Thus, Comrie's absolute tenses seem to correspond to Houweling's deictic tenses; relative tenses correspond to anaphoric tenses, and absolute-relative to hybrid tenses. There is one crucial difference, though: In Comrie's system, only non-finite clauses are assumed to contain relative (anaphoric) tenses; hence, e.g. the English past progressive is considered to be an absolute (deictic) tense in his system, while, as we have seen, in Houweling's system, it is an anaphoric (relative) tense.

An approach similar to Houweling's is adopted by Adelaar and Lo Cascio (1985), who attempt to improve on the textual model proposed in Lo Cascio, 1985. In their model, every text is dominated by a temporal operator, which is considered as

⁵According to Houweling, the simple present is deictic in independent clauses like (a), but can also occur anaphorically in subordinate clauses, as for instance in (b):

- a. Mary is dancing now.
 b. When I see him, I'll tell him all about it.

'given' to discourse participants. Generally speaking, this given time is the time of speech, and is called 'Given Primary Time', **GPT**.⁶ Adelaar and Lo Cascio argue then that some tenses express a temporal relation directly with GPT, i.e. they are evaluated with respect to GPT. Such tenses are called **deictic**, and they include the English simple past and the Italian present perfect. Other tenses are evaluated with respect to a 'Given Secondary Time', **GST**; in other words, they do not establish a temporal relation directly with GPT, but with a previously established temporal interval, which functions as antecedent. These tenses are naturally called **anaphoric**, and they include the imperfective tenses (in e.g. Italian), and the past perfect.

There is one difference between Adelaar and Lo Cascio's and Houweling's approaches: unlike the former, the latter qualifies his definition of deictic and anaphoric tenses by claiming that deictic tenses can have anaphoric uses contextually. He states that

"it is not entirely true that the relation between the time of an event narrated with a deictic tense and the time of the speaker is always a direct relation. It seems in fact that a new event Ey of which no time is indicated by means of a temporal adverb, situates itself immediately after the preceding event Ex". (Houweling, 1985:169)

Houweling seems to imply then that all tenses are after all anaphoric in narratives, (or context-dependent à la Webber, 1988). However, although I adopt Houweling's three-way division of tenses, I wish to claim that we need to distinguish two senses of 'anaphoric tense': the first one relates to the inherent meaning of tense, and the second one to the function of tense in discourse. Indeed, this is precisely the position adopted by Adelaar and Lo Cascio: according to them, a deictic tense

"does not express any temporal relation relative to the time of a preceding state of affairs of the same text, but only relative to the GPT. The movement of the action in a narrative text is given by connective temporal adverbs or is stated with the help of our knowledge of the world." (Adelaar and Lo Cascio, 1985: 260)

Before elaborating on this claim, I shall look at the Reichenbachian notion of Reference Time, which has proved to be a major source of confusion in current theories of tense and aspect. Specifically, I shall argue that

⁶Adelaar and Lo Cascio (1985) are mainly concerned with the binding rules for temporal anaphors within the Government and Binding framework. I am only interested in the general claims made by Adelaar and Lo Cascio regarding deictic and anaphoric tenses, and not in the details of their binding theory.

1. The notion of Reference Time is only required for the analysis of complex tenses, and
2. Temporal adverbials perform two distinct functions: they can localise the Event Time, or they can localise the Reference Time.

2.3. The Notion of 'Reference Time'

2.3.1. Reichenbach's System of Tenses

Reichenbach (1947) analysed the semantic distinctions among temporally inflected verb forms in terms of relations among three temporal points: Speech Time (ST), Event Time (ET) and Reference Time (RT). ST refers to the temporal location at which a sentence is uttered; ET refers to the temporal location of the situation described in the sentence, while RT refers to the point from which the speaker views the situation. The following are then the representations for the most common English verb forms in the Reichenbachian framework:

(13)	present simple	= ST,ET,RT	(John sings)
	present perfect	= ET_ST,RT	(John has sung)
	prospective	= ST,RT_ET	(John is going to sing)
	past simple	= ET,RT_ST	(John sang)
	past perfect	= ET_RT_ST	(John had sung)
	future simple	= ST_ET,RT	(John will sing)
	future perfect	= ST_ET_RT	(John will have sung)

(Note that ',' indicates 'coincidence, and '_' temporal distance).

It has also been suggested (e.g. by Bruce (1972) and Johnson (1981)) that the semantic category of **tense** is represented by the relationship between RT and ST, while the **aspect** category relates ET to RT. Thus, in the present tenses ST and RT coincide; in the past tenses RT precedes ST, and in the future tenses RT follows ST. As to the aspectual distinctions, with simple aspect, ET is simultaneous with RT, while with perfect aspect ET precedes RT. (For the sake of completeness, we should also mention that with prospective aspect RT precedes ET, though Johnson has not analysed this particular verb form).

Many theorists have accepted the Reichenbachian system of tenses shown in (13), but have extended and modified it to accommodate recent theoretical insights (cf. e.g. Taylor, 1977; Dowty, 1982; Kamp, 1979; Kamp and Rohrer, 1983; Hinrichs, 1986). One major modification, which was already touched upon in Chapter One, concerns the 'intervalisation' of Reichenbach's time points, required for the analysis of sentences describing *durative* events (cf. e.g. Bennet and Partee, 1972; Bruce,

1972; Dowty, 1979; Taylor, 1977; Bennett, 1981). An *interval* of time can be defined as "a set of times with no 'gaps' between the members of the set", and a *moment of time* as "a set of times with just one member" (Johnson, 1981:149). It is often assumed that ST is a moment of time, while RT and ET can be extended intervals, though, as Johnson (1981:150) puts it: .."it seems reasonable to view RT as a moment of time whenever the semantics of an utterance does not explicitly require us to do otherwise".

Another problem with respect to Reichenbach's system, which relates to the notion of temporal intervals, concerns the analysis of the progressive aspect. According to Reichenbach, both the simple past and the past progressive indicate that ET coincides with RT, and the only difference between the two forms is that in the former case, ET (hence RT) refers to a point, while in the latter case it covers a "stretch of time". However, as has been pointed out by a number of theorists (cf. e.g. Taylor, 1977; Dowty, 1979, and Bennett, 1981), events referred to by a simple past sentence can also be durative (e.g. *Mary wrote the letter in 20 minutes*); hence, the difference between the simple past and the past progressive cannot lie in the length of the temporal interval representing ET. Secondly, it has been suggested that in the case of the past progressive, the RT and ET are not coextensive, but that RT is *contained* in the ET. Consider the following example:

- (14) When I arrived, Kevin was writing a poem and
Bob was doing the dishes.

When I arrived seems to function as an RT for the progressive clauses; however, it is clear that the RT and ET do not coincide in this case, but that the former is contained in the latter. Thus, the following representation can be proposed for the past progressive: $ET \supset RT < ST$, i.e. ET includes RT, which precedes ST.

2.3.2. The Relevance of RT

The major innovation of Reichenbach's is the introduction of reference time. Unlike the notions of ET and ST, which seem self-explanatory, the notion of RT requires careful explanation. This is because there seems to be a good deal of confusion and disagreement as to the status of RT in Reichenbach's original theory, as well as in its subsequent modifications.

The most straightforward definition of RT is that it reflects the speaker's point of view; or, in more general terms, RT represents the 'temporal perspective' from which the described event is viewed. Temporal adverbials (*at 3 pm, last week, when I arrived*, etc.) are assumed to establish a referent to which the RT of the main clause is attached.

It is difficult to see the relevance of RT in the analysis of simple forms because in their case RT always coincides with ET. Thus, it is not at all clear why the event of Kevin's eating three cakes should be related to ST via a RT in (15):

- (15) Kevin ate three cream cakes last night.
 analysis: $\langle (RT, ST) \ \& \ = (ET, RT) \ \& \ \text{Last night} (RT) \rangle$

where \langle represents precedence; $=$ coincidence, and the adverbial *last night* localises the RT.

However, RT plays a crucial role in Reichenbach's account of the perfect tenses. For one thing, it can be used to distinguish the meanings associated with the simple past and the present perfect in languages like English: in Reichenbach's system the difference between *John sang* and *John has sung* is that in the former case RT and ET coincide and both precede ST, while in the latter case RT and ST coincide and ET precedes both. At first sight then this analysis seems to formalise the 'current relevance' feature that the (English) present perfect has, and the simple past lacks.

RT is also required for the analysis of the past perfect form. Consider, for example, the following:

- (16) At 5 pm Kevin had eaten three cream cakes.
 Analysis: $\langle (RT, ST) \ \& \ \langle (ET, RT) \ \& \ 5pm (RT) \rangle \rangle$

It is obvious that the act of eating three cream cakes cannot be related directly to ST, but has to be interpreted with respect to a RT (5 pm); thus, the ET is interpreted as preceding the RT, which in turn precedes ST. (As we shall see below, this is only one possible temporal interpretation of the sentence).

The notion of reference time has also been employed in the analysis of the temporal structure of narratives by e.g. Kamp (1979), Kamp and Rohrer (1983), Hinrichs (1986), Nerbonne (1986) and Partee (1984). For instance, it is assumed that RT plays a crucial role in explaining the difference between the examples in (5) and (14) discussed above. Consider again example (5), which is repeated here. The following would be part of its Discourse Representation, showing the temporal relation of events:

- (5) Mary walked in (e1) and sat down. (e2)
 (5') $e1 \subseteq r0$
 $e1 < r1 < rs$
 $e2 \subseteq r1$
 $e2 < r2 < rs$

Thus, at the beginning of the discourse, a past reference time, $r0$, is established. The simple past sentence denoting $e1$ is interpreted as occurring within this current reference point, and it also introduces a new reference time, $r1$, which follows $r0$. The second clause denoting $e2$ is then specified to occur within this new reference time, and being in the simple past tense, it also introduces a new reference point, $r2$.

A different representation is assigned to example (14), repeated here:

(14) When I arrived, (e1) Kevin was writing a poem (e2)
and Bob was doing the dishes. (e3)

(14') $e1 \subseteq r0$
 $e1 < r1 < r2$
 $r1 \subseteq e2$
 $r1 \subseteq e3$

Again, the first clause introduces a new reference point, $r1$; however, the past progressive clause does not move the narrative forward, but is interpreted as including the current reference time ($r1$). The same analysis applies to the second progressive clause denoting $e3$.

Indeed, examples like (14) provide yet another reason for introducing the notion of reference time. According to Hinrichs (1986), we cannot represent narratives like (14) without recourse to reference times. Since stative sentences are assumed to overlap temporally the previously mentioned event, if we did not use reference times, we would have to represent the two progressive events as overlapping each other. However, what we need is a representation in which the progressive states are shown to occur simultaneously, in which both overlap the same previously introduced reference point.

Hinrichs (1986) and (1989), and Rohrer (1985) have also claimed that we need more than the three familiar time points for the analysis of the temporal structure of discourse. Specifically, we need a fourth temporal entity: a **Temporal Perspective**. Consider the following example (from Hinrichs, 1989: 247):

(17) a. Adam had been blindfolded (e1)
b. had been put in the back of a car (e2)
c. and had been locked up in a remote farmhouse. (e3)
d. Now they were contacting his wife (e4)
e. asking for a million dollar ransom. (e5)

According to Hinrichs,⁷ to capture the order of events we need to keep track of two

⁷In Rohrer's model (Rohrer, 1985), R and TP are also distinguished, but in his system the latter is only used in the analysis of subordinate clauses.

types of reference points: (1) a point introduced by the adverb *now*, which serves as the reference point for the past perfect and which is temporally contained in the event *e4* and *e5*, and (2) a set of reference points, which are associated with the events *e1*, *e2* and *e3* themselves and which are updated as the narrative progresses.

2.3.3. Reference Time vs. Localiser

Not all linguists have accepted Reichenbach's analysis of tenses without discussion. For instance, Comrie (1981) raises several problems regarding the Reichenbachian system; however, from the point of view of the present discussion, his most important objection concerns the analysis of the perfect forms.

Comrie argues that Reichenbach's system makes the following two claims:

1. The relation between the present perfect and the (simple) present is identical to that between the past perfect and the past, or between the future perfect and the future.
2. The difference between the present perfect and the past lies solely in the temporal location of RT, which coincides with ST in the perfect, and ET in the past.

Comrie claims that neither point is tenable. First of all, he rejects Reichenbach's claim that when a time adverbial is added, it refers, not to the event, but to the reference point of the sentence. As Comrie points out, the claim holds by and large for the (English) present perfect, which cannot be qualified by a time adverbial referring to a specific point or period of time in the past (i.e. it cannot refer exclusively to ET), as is illustrated by (18):

(18) *I have arrived yesterday.

However, it does *not* hold for the past perfect or the future perfect, where the time adverbial may characterise either RT or ET. Thus, in (19)

(19) I will have finished at six.

at six can have a *future perfect* reading (i.e. it can mean "By six, I will already have finished", in which case *six* refers to RT), or it can equally plausibly have a *future-in-the-past* interpretation (i.e. it can be read as "I will have finished exactly at six", in which case *six* locates ET). The same applies to the past perfect, as (20) illustrates:

(20) He had left at six.

On the *past perfect* interpretation, (20) means "He had already left by six", (where six refers to RT), while on the *past-in-the-past* reading, it means "He had left exactly at six" (i.e. six locates ET).

Comrie also cites typological evidence in favour of separating the English present perfect off from the past perfect and future perfect. Many languages have tense systems in which the present perfect has the same two functions as the other two perfect tenses. For instance, it is quite possible to combine the French present perfect with temporal adverbials referring to a specific point in the past, as in the following:⁸

(21) Il est arrivé le 9 mars.

It seems that in languages like French, the difference between the three perfect forms (present, past and future) lies in the location of the reference point from which the sentences are viewed: the present perfect locates the situation prior to the ST; the past perfect locates the situation anterior to a reference point which is anterior with respect to ST, while the future perfect locates the situation anterior to a reference point which is posterior with respect to ST. The three forms may also contextually have the 'current relevance' meaning; however, this meaning is secondary to the temporal meanings analysed in terms of the three time points.

Thus, Comrie concludes that the Reichenbachian characterisation of the English present perfect is inadequate. First of all, the difference between it and the simple past form cannot be attributed to the location of RT. Both forms locate the situation in the past; they differ in the feature 'current relevance', which *cannot* be captured by the Reichenbachian system.⁹ Secondly, Comrie states that the temporal reference of the English present perfect is complex, so characterisations such as "it refers to ST" are oversimplified. Basically, the present perfect seems to show a hierarchy of acceptability of time adverbials. Thus, time adverbials encompassing both ST and ET are most acceptable, as in (22a); next come adverbials referring only to ST, as in (22b), while adverbials encompassing ET, but

⁸Of course, it could be argued that the French *passé composé*, being a narrative tense, does not really have a Perfect meaning. However, as we shall see in Chapter Five, the Finnish perfect, which is *not* a narrative tense, can also be combined with adverbials referring to a specific past time. Note further that when combined with a modal verb, the English present perfect can also occur with a definite time adverbial: *He may have arrived at 6.*

⁹The same criticism applies to the so-called Prospective Aspect which is discussed in Chapter Five.

not ST, are generally unacceptable (cf.(22c)):¹⁰.

- (22) a. I have seen him today.
b. I have now seen him five times.
c. *I have seen him yesterday.

In conclusion, Comrie claims that given the inadequacy of Reichenbach's analysis of the English present perfect, there does not seem any reason for specifying a point of reference if this overlaps either ST or ET. Comrie then divides tenses into absolute (simple tenses) and relative (e.g. perfect tenses): a tense representation for the former requires ET and ST, and for the latter additionally at least one RT:

(23)

Tense	Structure
present	ET overlap ST
past	ET precede ST
future	ET follow ST
past perfect	ET precede RT precede ST
future perfect	ET precede RT follow ST
future-in-the-past	ET follow RT precede ST

Bertinetto (1985) is also critical of Reichenbach's treatment of tenses and temporal adverbials. He points out that in the Reichenbachian system temporal adverbials are always assumed to localise RT, while it is clear that they fulfil two distinct functions: (1) they locate the event described in the sentence, and (2) they locate the reference point. Bertinetto argues then that instead of talking about the two uses of temporal adverbials, it would be preferable to distinguish two separate functions, Reference Point and Localiser, **R** and **L**.

Bertinetto further claims that with simple tenses adverbials only have the first function, while with complex tenses they can trigger both interpretations, as the sentences in (19) and (20) above illustrate. The following are some of Bertinetto's arguments in support of this claim.¹¹

First of all, Bertinetto claims that the simple past is not compatible with any time expression which functions as a genuine R, while such an R is required by the past perfect. Consider the examples in (24):

¹⁰Dowty (1979) comes to the same conclusion, pointing out that the Reichenbachian analysis of the simple past and the present perfect fails as a *semantic* account because it gives the two forms exactly the same truth conditions. What Dowty claims then is that the RT in the representations ET=RT<ST for the simple tense, and ET<RT=ST for the present perfect represents some sort of a *pragmatic* inference.

¹¹Although I agree with the claims Bertinetto makes in his paper, I find that some of his examples lack conviction. Therefore, I reproduce his arguments, but use a different set of examples.

- (24) a. ?John left by the time Mary arrived.
 b. John had left by the time Mary arrived.

The assumption here is that the adverbial clause *by the time Mary arrived* functions as an R, and not as an L. The claim is then that (24a) is unacceptable because it contains a simple tense, which cannot occur with an R. By contrast, (24b) is perfectly acceptable; what is more, the sentence is not interpretable temporally without such a reference point. Consider too the examples in (25):

- (25) a. John left on Sunday.
 b. !John had left on Sunday.

Assuming that *on Sunday* functions as an L in both (25a and b), (i.e. it locates the event of John leaving), Bertinetto claims that (25b) is semantically incomplete unless it is integrated into wider textual context; in other words, it requires an R.

Thus, Bertinetto draws a distinction between *extrinsic* and *intrinsic* temporal reference. The former concerns the localisation (L) of events in the 'real world' (or textual model), while the latter concerns the identification of abstract reference points (R), which are implied by the semantics of certain tenses, viz. compound tenses. He proposes then the following representations of tense forms:

- (26) present = S, E(L)
 present perfect = E(L) _S, R
 simple past = E(L) _S
 past perfect = E(L) _R _S
 simple future = S _E(L)
 future perfect = S _E(L) _R

Adelaar and Lo Cascio (1985) also argue that temporal adverbs have a double function: they can localise the RT or the ET. According to them, the RT for an anaphoric tense is provided by the event time of the clause which functions as its antecedent. Further, in some cases the temporal adverbial on its own represents the entire antecedent clause. Consider the example in (27) in this respect:

- (27) Yesterday I had already spoken to Mary.

In (27) *yesterday* functions as a reference point for the speaking event, and not as its localiser. However, it is clearly the localiser of an event mentioned in the preceding discourse; hence, (27) is equivalent to (28):

- (28) Yesterday when you arrived, I had already spoken to Mary.

where *yesterday* localises the *when*-clause event, which serves as the antecedent for the past perfect clause.

In this approach, then, the past perfect would be represented as: $E(L) < R(L) < S$. The difference between this sort of system and the one proposed by Bertinetto is that in the latter $R(T)$ represents an overt localiser of a reference point, and L an overt localiser of $E(T)$, while in Adelaar and Lo Cascio's system RT is an abstract reference point, which, just like ET , can be combined with L .

2.3.4. Conclusion

We can now relate the discussion in the previous section to the notion of autonomous and nonautonomous tenses discussed in Section 2.2. Following Houweling (1985), I assume a three-way division of tenses, and following Bertinetto (1985), and Adelaar and Lo Cascio (1985), I assume that temporal adverbials can localise either the ET or the RT .

We can then represent (informally) the three kinds of tenses as follows:

(29)

1. Deictic (e.g. the simple past):

tense + (Loc) => ---[Ex]---GPT

meaning representation: $ET(L) < GPT$

2. Hybrid (e.g. the past perfect):

tense + (Loc) => ---[Ex]---GST---GPT

meaning representation: $ET(L) < GST(L) < GPT$

3. Anaphoric (e.g. the past progressive):

tense + (Loc) => ---[Ex]---GPT

tense (anaphoric) => ..Ey..

meaning representation: $ET \supset GST(L) < GPT$

Note that a complete temporal interpretation of a tensed clause involves the specification of the event (Ex), *plus* its location on the time line relative to the GPT . Thus, deictic tenses, together with an optional temporal localiser (an adverb), refer to a temporal entity, which is located with respect to GPT . Hybrid tenses refer to a temporal entity, which can be localised, and which is related to a reference point other than GPT . Finally, anaphoric tenses do not specify a temporal entity independently of their antecedent. They refer anaphorically to an entity specified by a deictic tense; hence, their ET cannot be localised directly.

A number of points should be clarified in this connection.

First, the past tense is *not* related anaphorically to a time adverbial occurring in the same clause. The past tense and the temporal adverbial *together* are used to refer to a temporal entity; in other words, the temporal adverbial specifies (locates) the past event time referred to by the tense. Thus, the relationship between the tense and the adverbial in e.g. *John left at 5 o'clock* is one of *agreement* (cf. Anderson, 1972), rather than one of anaphora. For one thing, calendar adverbials, such as *3 pm* and *in August*, are not marked for the [+,- past] distinction; it is the tense which determines whether the event time specified is located posterior or anterior with respect to GPT (cf. *He left at 5* vs. *He will leave at 5*).

Second, we can still maintain that nonanaphoric tenses refer to a *specific* time; however, this time is not the Reichenbachian RT, but more like the ET. Furthermore, as far as the hearer is concerned, *all* simple past sentences without an explicit temporal localiser are vague with respect to their time reference. The speaker uses a deictic tense to refer to a specific time in the past, and whether or not the time referred to is *salient* to the hearer (cf. Partee's (1984) example *I didn't turn the stove off*) has nothing to do with the anaphoric/deictic use of tenses.

Third, in (29) I have used the terms 'GPT' and 'GST', instead of 'ST', and 'RT', in order to distinguish these concepts from the Reichenbachian ones. GPT *can* refer to the speech time, but it should be extended to represent the 'read time' or 'write time' of narratives; in other words, GPT can be taken to refer to the time of *communication*.¹² GST in turn is only associated with nonautonomous tenses; hence, it is a narrower concept than the Reichenbachian RT.

Fourth, the term 'tense' does not refer exclusively to the morphosyntactic tense, but in dividing tenses into autonomous and nonautonomous, semantic factors, such as *aktionsart*, have to be taken into account. For instance, as we shall see shortly, simple past sentences denoting *states*, like the main clause in *Mary was in London when I rang her* can be temporally anaphoric.

Finally, it is true that in example (17) above, all the past perfect clauses are analysed with respect to the temporal perspective provided by the past progressive sentence in (17d), as well as being ordered with respect to one another. However, we have to distinguish two levels of discourse structure in this connection: (1) the main narrative described by autonomous tenses, and (2) the subnarrative described by nonautonomous (hybrid) tenses. We can say then that the secondary tenses in (17a, b and c) are anchored to the temporal focus of the main narrative, but are also used to shift the focus within the subnarrative. However, this does not

¹²'Time of Communication' corresponds roughly to the notion of 'discourse location' mentioned in Chapter One in connection with situation-theoretic approaches to tense (cf. Cooper, 1986). Of course, the latter notion is richer in that it embraces also the spatial location. In the subsequent chapters, a spatial dimension will be added to the temporal model discussed in this chapter.

necessitate the separation of TP and RT; we merely have to separate the meaning and function of tenses. Thus, the meaning of the past perfect implies that it must be anchored to a reference point anterior to GPT, but within this temporal sector, a sequence of past perfect clauses can be ordered in a number of ways.

Of course, we can still talk about the 'RT' even in the case of simple past sentences if we re-interpret it as some kind of a 'Temporal Focus' (cf. e.g. Nakhimovsky, 1988), which is perceived as moving as the narrative progresses. However, it is crucial to realise that RT as Temporal Focus has a purely textual character, whereas the Reichenbachian RT constitutes part of the semantics of individual tenses.

I shall now look at narrative movement in more detail, with special emphasis on three narrative tenses: the simple past, the past perfect and the past progressive.

2.4. Static and Dynamic Operations

2.4.1. On Narrative Movement

It was suggested in Section 2.2. that we should distinguish semantic and discourse anaphora in the temporal domain, i.e. the inherent meaning of tenses and their discourse function. In this section, I shall take a closer look at the meaning/function issue, relating the preceding discussion to the analysis of the temporal structure of narratives. Before elaborating on the difference between semantic and discourse anaphora, I shall mention briefly some linguistic phenomena which are discussed extensively in current literature on tense in discourse.

The first phenomenon, which was already touched upon in Chapter One, is the effect of the **aspectual class** ('Aktionsart') of a sentence on the temporal relations of two consecutive clauses. This has been studied by e.g. Hinrichs (1986). The general rules are: If two sentences in the simple past tense both contain events that can be identified as **accomplishments** or **achievements** (cf. Vendler, 1967), then the events are understood as happening in a succession, as in (30):

- (30) a. John came in,
 b. and took off his coat.

By contrast, if the first clause denotes an event, and the second one an **activity** or a **state**, then the second event can be viewed as either succeeding or overlapping the first one. The former possibility is exemplified in (31), and the latter in (32):

- (31) a. John switched off the light.
 b. It was pitch-dark around him .
- (32) a. John looked out of the window.
 b. The children were outside.

It is not, however, difficult to find counter-examples to the two simple principles proposed by Hinrichs. First of all, instead of describing a forward movement, a simple past sentence may describe a backward movement in time, as in (33b) (This example is from Webber, 1988:65):

- (33) a. For an encore, John played
 the *Moonlight Sonata*.
 b. The opening movement he took rather
 tentatively, but then...

Furthermore, there are cases where two simple past sentences are interpreted as referring to events which occur simultaneously, as in (34):

- (34) a. Mary sang
 b. and John accompanied her on the piano.

For this reason (among others) recent models of narrative have incorporated the notion of **event structure** (cf. e.g. Moens, 1987, and Moens and Steedman, 1988). It has been stressed that events should not be seen as non-divisible entities, but they can be associated with various phases, which play a crucial role in the temporal interpretation of narratives. Moens and Steedman propose a tripartite event structure, a **nucleus** consisting of a **preparatory** phase, a **culmination** and a **consequent** phase. For instance, we can say that (30b) refers to the consequent phase associated with the event described in (30a), while (33b) refers to the preparatory phase associated with (33a).

Linguists have also studied the effect of **Discourse Structure** on the temporal interpretation of discourse (cf. e.g. Grosz and Sidner, 1986 and Nakhimovsky, 1988). For example, the past perfect is always used to move the narrative backward; however, this backward movement can occur within the same **Discourse Segment** (the mainline narrative), as in (35), or the past perfect can be interpreted as beginning a new Discourse Segment (an embedded narrative), as in (36):

- (35) a. The telephone rang: it was Mme Dupont;
 b. her husband had eaten too many oysters.
- (36) a. Tessie sat beside Phoebe with Araminta.
 b. Araminta had begun as an ear of corn.
 c. On a piece of cloth Mother had painted a face, using blue for the eyes...
 d. She had stitched on smaller pieces of cloth, black for the nose, pink for the cheeks and red for the mouth.
 d. She had tied the cloth over one end of the ear of corn...

These examples are from Nakhimovsky, (1988:40), who claims that in cases like (35) the past perfect does not shift the **Discourse Focus**; it merely indicates precedence and relevance; by contrast, in narratives like (36) the past perfect creates a new discourse focus position to which subsequent sentences refer, while the mainline focus associated with (36a) is stored for possible resumption. Thus, within an embedded narrative, two past perfect clauses can describe events which are interpreted as happening in a succession, as in (37), or which occur simultaneously, as in (38):

- (37) a. Mary had gone into the florist shop
 b. and (had) bought some flowers.
- (38) a. Kevin had baked a cake
 b. and Mary had helped him.

Finally, as has already been mentioned, the progressive is assumed to denote a kind of state; thus, it does not move the narrative forward but indicates an overlap relation with its antecedent:

- (39) a. John entered the President's office.
 b. The president was writing a letter.

2.4.2. Neo-Reichenbachian and Textualist Approaches

We can distinguish two approaches to the analysis of tense in text:

1. Those which treat all tenses as anaphoric; they incorporate the Reichenbachian notion of RT, assuming that *all* tenses are associated with a separate RT.
2. Those differentiating between **semantic** and **discourse** anaphors: Only *nonautonomous* tenses are related to an RT; in the case of *autonomous* tenses the RT has a purely textual character.

I shall call the first approach **Neo-Reichenbachian**, and the second one, **Textualist**.

In the Neo-Reichenbachian approaches, it is the RT of a tense that is anaphoric (cf. e.g. Webber, 1988). In particular, RT can have as its antecedent a temporal adverbial in the same sentence, as in (40):

(40) John left last night.

where the RT is assumed to attach to *last night*. If no such temporal adverbial is present, the antecedent can be provided by a clause in the previous/subsequent discourse, as in (41):

(41) a. John came at 5
b. and took off his coat.

In (41b) the RT is assumed to refer to a time "shortly after" the one referred to by the adverbial in (41a).

This analysis can be extended to narratives involving tenses other than the simple past. For instance, Webber (1988) claims that in (42)

(42) a. John went to the hospital.
b. He had twisted his ankle.

it is not the ET of John's twisting the ankle that is interpreted anaphorically with respect to his going to the hospital. Rather, it is the RT of the second clause; its ET is interpreted as prior to that because the clause is in the past perfect. Similarly, we can argue that in (43)

(43) a. Mary entered the room.
b. John was preparing spaghetti.

the RT of (43b) refers to the time specified by (43a), and its ET is interpreted as overlapping this time.¹³

The following is then the basic formula in Webber's system:

(44) $\beta(\text{Cb}, \text{Ea}, \text{RTb}) = \text{Eb}$

where Cb is a tensed clause, specifying an entity Eb, whose temporal relationship to other events in the model follows from (1) Cb's particular configuration of ET, RT and ST, and (2) the particular β -function involved. The entity Ea is the **Temporal Focus**, TF; i.e. the main focus of attention in the discourse being processed. β either links RTb directly to Ea, or it may also embody part of the tripartite event ontology mentioned above.

¹³In fact, Webber does not discuss the past progressive form; what I present here is a logical extension of her system.

The direct linking of RTb to Ea is represented by the 0-relation. In this case, then, the relationship between Ea and Eb depends on the configuration of RTb and ETb. If $ETb=RTb$, then Eb is taken to coincide in some way with Ea (cf. example (34)); if $ETb<RTb$, Eb is taken to precede Ea (42), and finally, if $ETb>RTb$, Eb is taken to overlap Ea (43).

There are two relations dealing with the non-direct linking of RTb to Ea. First, β prep links RTb to the preparatory phase of Ea, as in (33) where Eb is taken to precede Ea. Second, β conseq links RTb to the consequent phase of Ea, as in (41), where Eb is taken to follow Ea.

Now it is clear that in Webber's system, the ET/RT/ST-configuration represents the semantics of the various tenses while the β -function represents the movement of TF in discourse. In fact, the latter fulfils two distinct functions simultaneously: it relates the RT of the clause being processed to the current TF, and also determines the relative ordering between two consecutive clauses.

Textualist systems differ from the Neo-Reichenbachian ones in the following respects. First, only nonautonomous tenses are associated with an RT in their meaning representations. Second, two interpretation processes are identified: one binding the RT of a nonautonomous tense to its discourse antecedent (TF), and the other determining the relative ordering of tenses belonging to the same temporal sector (i.e. main or subnarrative).

We have already encountered one specific proposal which seems to adhere to the Textualist position, viz. the proposal put forward by Adelaar and Lo Cascio (1985). They separate three levels of interpretation process: **relation**, **localisation** and **direction**. First, an event establishes a temporal relation of anteriority, posteriority or coincidence with its evaluation point (GPT or GST). The linguistic form expressing such a temporal relation is the verbal tense (TE). Second, the localisation operation anchors the event to the time axis. Temporal adverbs (TA) (anaphoric and deictic) function as temporal localisers. Furthermore, Adelaar and Lo Cascio argue that the temporal relation and the temporal localisation are **static** operations, while their interaction produces a **dynamic** process determining the relative temporal ordering of consecutive clauses in a text.

Consider the example in (45):

- | | | |
|------|--------------------------------------|------|
| (45) | a. Bob stole Kevin's roses | (Ea) |
| | b. and gave them to John. | (Eb) |
| | c. John rang Kevin, | (Ec) |
| | d. and told him about the situation. | (Ed) |

Adelaar and Lo Cascio argue that the tense form *rang* in (45c) marks Ec as being

anterior, not with respect to Eb, but with respect to GPT. In fact, Ec is clearly posterior relative to Eb. Thus, Adelaar and Lo Cascio claim that in a narrative like (45) the temporal order is *not* marked by the tenses.

The same rule applies to embedded narratives consisting of a series of non-autonomous tenses, such as the past perfect, which are evaluated with respect to GST. Consider the example in (46):

- (46) a. Kevin was most annoyed. (Ea)
b. Bob had stolen his roses (Eb)
c. and (had) given them to John. (Ec)

Thus, we can say that the past perfect in (46c) does not express anteriority with respect to Eb, but Ea (GST), while the relative order of Eb and Ec is again determined by other (pragmatic) factors. Thus, the general rule seems to be that tenses do not express temporal order relative to other tenses belonging to the *same* temporal sector.

Adelaar and Lo Cascio also discuss the interaction of tenses and temporal adverbials. Consider, for instance, the following:

- (47) a. Mary came at 10 o'clock (Ea)
b. and John arrived 2 hours later. (Eb)

The generally accepted view is that the tense in (47b) is related anaphorically to Ea, because the anaphoric adverb *2 hours later* has to be interpreted with respect to the time specified by (47a) (*10 o'clock*), and not with respect to ST. However, this will not pose a problem for the Lo Cascio model since it distinguishes the functions the tense and the temporal adverbial perform in a clause. Thus, if a deictic tense is accompanied by an anaphoric temporal adverbial, the event establishes a textual relation, which is expressed by the temporal adverb, and not by the tense. To put it differently, the temporal adverbial in (47b) enables us to localise precisely the *event* of John's arriving, but the *tense* of (47b) is interpreted with respect to GPT.

Let's now see how the Textualist system would analyse the examples in (41), (42) and (43), which are repeated here:

- (41) a. John came at 5 (Ea)
b. and took off his coat. (Eb)
- (42) a. John went to the hospital. (Ea)
b. He had broken his ankle. (Eb)
- (43) a. Mary entered the room. (Ea)
b. John was preparing spaghetti. (Eb)

First, (41a) contains a deictic tense; hence, it introduces a new discourse entity

Ea, and places it prior to ST. Ea then provides the TF ('a textual RT'). (41b) also introduces a discourse entity, Eb, and similarly locates it anterior to ST. On the basis of e.g. world knowledge Eb is interpreted as being located after Ea, so the TF is shifted to Eb.

In (42), the (a)-clause introduces Ea, which becomes the TF. (42b) contains a past perfect, which is a hybrid tense introducing a new entity Eb and placing it prior to a previously established RT. In this case, the RT is the current TF, i.e. Ea. Since RT is part of the semantics of the past perfect ($ET < RT$), the ordering between Ea and Eb is determined solely on the basis of the inherent meaning of the two tenses.

Finally, (43a) introduces Ea, which becomes the TF. (43b) contains an anaphoric tense, the past progressive, which introduces Eb. This cannot be localised directly, but obtains its temporal reference from its antecedent, the deictic tense in (43a). RT is part of the meaning of the past progressive ($ET \supset RT$), so again the ordering is determined on the basis of the semantics of the two tenses.

The following gives a summary of the representations assigned to the sentences (41b), (42b) and (43b), respectively, in the two approaches (I am using Webber's notation here):

(48)

1. Neo-Reichenbachian:

The temporal ordering follows from the ET/RT/ST/- configurations, and the kind of β -function involved:

- 41b. $\beta_{\text{conseq}}(\text{Cb}, \text{Ea}, \text{RTb}) = \text{Eb}$; $\text{RTb} = \text{ETb} \Rightarrow \text{Eb follows Ea}$
 42b. $\beta_0(\text{Cb}, \text{Ea}, \text{RTb}) = \text{Eb}$; $\text{ETb} < \text{RTb} \Rightarrow \text{Eb precedes Ea}$
 43b. $\beta_0(\text{Cb}, \text{Ea}, \text{RTb}) = \text{Eb}$; $\text{ETb} \supset \text{RTb} \Rightarrow \text{Eb overlaps Ea}$

2. Textualist:

- 41b. 1. Meaning of Cb: $\text{ET} < \text{ST}$; $\Rightarrow \text{Eb (Loc)}$
 2. Ordering:
 a. Identification of antecedent (TF): $\alpha(\text{Cb}, \text{Ea})$
 b. Ordering: $\beta_{\text{conseq}}(\text{Eb}, \text{Ea}) \Rightarrow \text{Eb follows Eb}$
- 42b. 1. Meaning of Cb: $\text{ET} < \text{RT} < \text{ST} \Rightarrow \text{Eb (Loc)}$
 2. Identification of antecedent (RT):
 $\alpha(\text{Cb}, \text{Ea}) \Rightarrow \text{Eb precedes Ea}$
- 43b. 1. Meaning of Cb: $\text{ET} \supset \text{RT} \Rightarrow \text{Eb}$
 2. Identification of antecedent (RT):
 $\alpha(\text{Cb}, \text{Ea}) \Rightarrow \text{Eb overlaps Ea (Loc)}$

(Note that the β -function deals with temporal ordering and the α -function the identification of antecedents).

Thus, it is clear that the two positions do not simply constitute 'notational variants', but embody two totally different conceptions of the anaphoric nature of tenses, making different predictions about the behaviour of tenses in narratives. Specifically, in the former approach, all tenses are assumed to be discourse anaphors, while the latter approach distinguishes between semantic and discourse anaphors.

In the remainder of this chapter, I shall argue in favour of the Textualist position.

2.4.3. Meaning and Function of Tenses in Text

Adelaar and Lo Cascio are not the only ones to insist on the separation of static and dynamic operations. Other linguists have argued that it is important to clearly distinguish the inherent meanings of tenses and the functions they perform in narratives. This is the position taken by e.g. Comrie (1985), who criticises current approaches to tense in text on the grounds that they do not distinguish the meanings of tenses from the implicatures (cf. Grice, 1975) that can be drawn from their use in a particular context.

For example, Comrie argues that the sequencing of events described by tenses is an implicature, and not part of the meaning of the tense forms. Although it is true that in many cases, the only coherent interpretation of a narrative is that the linear order of the clauses corresponds to the chronological order of the events described (cf. e.g. examples (30) and (41) above). However, this particular interpretation is an implicature and has nothing to do with the meaning of the simple past tense; for instance, there are narratives, such as that in (49), where the exact order of the events described by a sequence of simple past sentences is not important, or not even known to the speaker:

- (49) a. During the night, the wind tore off the roof,
b. broke three windows, and
c. brought down the apple tree.

It is not suggested here that anyone would seriously claim that one of the meanings of the simple past is 'posterior'.¹⁴ Indeed, as we have seen, Webber herself emphasises the fact that the simple past has a number of different discourse functions. The point is rather that in the Neo-Reichenbachian approach, it is simply impossible to distinguish meaning from function.

As we have seen, in the Lo Cascio system, the evaluation of the tense with regard

¹⁴As a matter of fact, I do know of one such system, viz. that proposed by van Eynde (1989), in which the simple past tense is associated with two meanings: +anterior, and +posterior.

to some reference point (GPT or GST) is called a static operation, while the interpretation of the movement of the Temporal Focus in a narrative constitutes a dynamic operation. We can now see that Webber's use of the term 'anaphoric' relates to the dynamic aspect of narratives, while Adelaar and Lo Cascio's use of 'anaphoric', as a property of imperfective tenses, relates to the static aspect.

We are now in a position to see why a system like Webber's cannot provide an adequate account of the behaviour of tenses in text. As has already been mentioned, the basic defect of her system is that it confuses meaning and function, which is reflected in her use of the Reichenbachian notion of RT. One specific consequence of this is that Webber is unable to represent examples like (37) and (38); in Webber's system, ET always precedes RT (i.e. the TF) for the past perfect, so she cannot account for the fact that in (37) Eb follows Ea, and in (38) Ea and Eb are co-extensive.

Consider now the analysis of (46), which is repeated here:

- (46) a. Kevin rang me up in the middle of the night. (Ea)
 b. Bob had stolen his roses (Eb)
 c. and had given them to John. (Ec)

The following are the two analyses available to Webber:

1. b. β_0 (Cb, Ea, RTb) = Eb; ETb < RTb
 c. β_0 (Cc, Eb, RTc) = Ec; ETc < RTc

i.e. Eb is related to Ea, and placed prior to it; similarly, Ec is related to Eb, and placed prior to it. This is, of course, an incorrect analysis.

2. b. β_0 (Cb, Ea, RTb) = Eb; ETb < RTb
 c. β_0 (Cc, Ea, RTc) = Ec; ETc < RTc

i.e. both Eb and Ec are linked to Ea by the 0-relation. The problem with this analysis is then that there is no way of representing the relation of Eb and Ec.

What we need is an analysis which allows us to combine (1) and (2), i.e. one in which both Eb and Ec are related to Ea, and in which Ec follows Eb. In other words, we require a Textualist analysis which allows us to separate the static and dynamic operations, so in the case of (46), the static operation relates the past perfect tenses to an evaluation point (i.e. ET < GST), while the dynamic one determines the relative ordering of Eb and Ec within the embedded narrative.

There is another problem inherent in Webber's model. As we have seen, in her system, the temporal interpretation of a clause is determined on the basis of the configuration of ET/RT/ST and the particular β -relation. However, since ET and RT

always coincide for the simple past, the interpretation of a simple past clause depends crucially on the kind of β -relation involved. The reverse is true for the past perfect, which can be linked to its antecedent only by the β_0 -relation, so in practice the interpretation of a past perfect clause is determined solely on the basis of the ET/RT configuration (i.e. $ET < RT$). In Webber's words (1988:66): "while β_{prep} and β_{conseq} relations for RTb might theoretically be possible for a perfect, it is not clear to me that these cases could be distinguished from the simpler β_0 . In the case of perfects, therefore, the relation between Eb and Ea is correspondingly indirect".

However, Webber's β_0 -relation linking two past simple clauses has to be distinguished from the one linking a simple past and past perfect clause. The former deals with discourse, and the latter with semantic anaphors. (The same applies to the past progressive, which Webber does not discuss). Furthermore, it is not sufficient to state that both β -conseq and β -prep are "theoretical possibilities" for the past perfect, though not used in practice. The reason β -conseq and β -prep do not link a simple past and a past perfect sentence is that the former represent first-level and the latter second-level tenses. It is clear then that Webber's β -relations can only hold between tenses describing the same discourse level.

All in all, the problem with respect to Webber's system can be attributed to the fact that Webber ignores the difference between L (Localiser) and R (Reference point). Hence, she cannot account for the dual nature of the past perfect: it specifies an event time which can be localised, and is evaluated with respect to a reference point, which can also be localised (cf. the discussion in Section 2.3.3. above).

2.4.4. Other Models

The problems discussed in the previous section are not peculiar to Webber's system, but plague also those Reichenbachian systems which can in principle represent the discourse in (46). For instance, we could argue that a system like Hinrichs' "works": it distinguishes RT and TP and can, therefore, represent (46) as follows:

$$\begin{array}{l}
 (46'') \quad e1 \subseteq R0 (=TP) \\
 \quad \quad e2 < TP < ST \\
 \quad \quad e3 < TP < ST \\
 \\
 \quad \quad e2 \subseteq R1 \\
 \quad \quad e2 < R2 < TP \\
 \quad \quad e3 \subseteq R2 \\
 \quad \quad e3 < R3 < TP
 \end{array}$$

In words, both e_2 and e_3 are placed prior to TP, and within this temporal sector, the past perfect clauses move the reference time forward; hence, e_3 is placed posterior to e_2 .

However, the following things should be noted in this connection.

First, R in the above diagram behaves more like the Reichenbachian ET than RT; in other words, it does not function as a reference point, but has to be re-interpreted as a localiser, which is interpreted as moving when a new event is introduced. Moreover, the TP seems to function as RT in the sense defined by e.g. Bertinetto (1985).

Second, it is clear that the meaning and function are inextricably bound up in a system like Hinrichs'. For one thing, in Hinrichs' system, all simple past sentences denoting an event introduce a new reference point; hence, move the narrative forward, but as we have seen, this is not part of the meaning of the tense, it is merely one of its functions. In other words, in Hinrichs' system, it is not possible to separate the fact that all nonanaphoric tenses specify a temporal entity on the time line from the fact that they are frequently used to move the TF.

Hinrichs (1989) acknowledges the problem, arguing that the interpretation rules which construct a set of DR Structures for a piece of discourse have to make use not only of grammatical information, but also of extra-linguistic knowledge. As we saw in Chapter One, Cooper (1986), too, separates *connections* (a kind of 'Temporal Focus') and *event locations*. According to Cooper, every tensed verb is used to move the connection forward, but whether or not the event location moves as well depends on pragmatic factors. This is, of course, precisely the position taken also by Dowty (1986), who claims that each new clause is *asserted* to move the temporal focus forward, although states and processes may be *assumed* to overlap the reference time introduced by the previous clause (cf. the discussion in Chapter One).

One advantage of the models proposed by e.g. Cooper and Dowty is that they seem to be able to handle counter-examples to the general rule regarding narrative movement. For instance, they can account for cases where a stative sentence is used to move the narrative forward, as in (50):

- (50) a. He switched off the light.
 b. It was pitch dark around him.

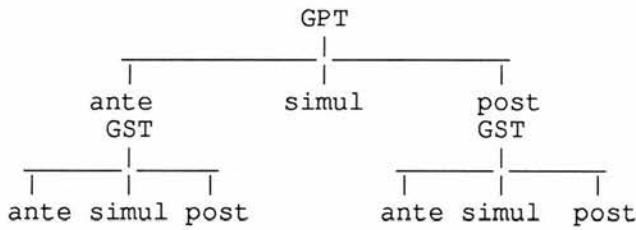
So Cooper would claim that in (50b) both the connection and the event location move forward, while Dowty would argue that (50b), like all clauses, sets up a new reference time, and in addition, the state in question is *assumed* to follow the event described in (50a).

However, it seems to me that these sorts of pragmatic approaches do not take sufficiently into account the fact that semantics often sets limits on pragmatic inferences; in other words, they ignore to a large extent the inherent boundedness or unboundedness of certain predicate types. I wish to maintain then that the semantics of statives (including progressives) and event sentences are crucially different; hence, they behave differently in discourse. Naturally, the aspectual perspective of a sentence ultimately depends on context; however, it seems to me that in order to study the interaction of the semantic and pragmatic factors involved in the temporal interpretation of narratives, we first have to separate them.

2.5. Conclusion

Tenses can be divided into *first-level* and *second-level*, and represented diagrammatically as follows:

(51)



All the first-level tenses are deictic; second-level tenses which are characterised as being anterior or posterior with respect to GST are hybrid, and those characterised as simultaneous with respect to GST are anaphoric.

The following are examples of the first- and second-level tenses:

(52)

Level 1:

simul wrt GPT: present progressive:
(*Mary is singing*)
ante wrt GPT: simple past:
(*Mary sang a song*)
post wrt GPT: simple future:
(*Mary will sing a song*)

Level 2:

A. GST = post

simul wrt GST: future progressive:
(*Mary will be singing a song*)
ante wrt GST: future perfect:
(*Mary will have sung a song*)
post wrt GST: future in the future: N/A¹⁵

B. GST = ante

simul wrt GST: past progressive:
(*Mary was singing*)
ante wrt GST: past perfect:
(*Mary had sung a song*)
post wrt GST: conditional:
(*Mary would sing a song*)

Since this thesis deals mainly with written narratives, the emphasis is on the tenses whose GST is *anterior* with respect to GPT. We can say then that the tense forms analysed as ante wrt GPT represent the semantic tense *Past*; the simul wrt GST forms are *Present in the Past* tenses¹⁶, and those analysed as ante wrt GST are *Past in the Past* tenses. These are the three narrative tenses that are focused upon in this thesis. The main rule regarding the temporal structure of narratives is that 'Past' sentences can be used to move the main narrative; 'Past in the Past' sentences can be used to move the subnarrative, whereas 'Present in the Past' sentences describe the narrative at a previously established reference point.

The diagram in (51) shows only the *primary* (temporal) meaning of the first- and second-level tenses, i.e. the location of ET with respect to GPT/GST. In Chapter Five, I am going to claim that the secondary meaning associated with e.g. the perfect forms relates to modality, and is pragmatically determined to a large extent.

There are also third-level tenses, such as the conditional perfect in e.g. *John would have arrived by five*, which is characterised by Comrie (1981) as ET precede RT1 follow RT2 precede ST, i.e. it requires two reference points. I shall not be

¹⁵Comrie (1985) claims that there is a 'future-in-the-future' tense in Latin. The nearest English equivalent is the periphrastic form *will be about to*.

¹⁶Indeed, as Comrie (1976:72) has pointed out, this is precisely how the Imperfective is characterised in traditional Indo-European linguistics.

concerned with the conditional forms here as they are clearly modal in nature, and furthermore, tend to occur in complement clauses, which are beyond the scope of this thesis.

The sentences in (52) exemplify only the most basic meaning associated with each tense/aspect form; for instance, the present tense can also function as a narrative tense (the so-called *historic present*). Consider the following piece of narrative, taken from Comrie, 1976: 73:

(53) I'm sitting on the verandah when up comes
Joe and says...

In (53) the present progressive is analysed as simul wrt GST[ante], and the present tenses as ante wrt GPT.

Furthermore, in addition to the Progressive, the 'Present in the Past' category includes the Prospective and Ablative aspects. These are more complex than the Progressive in terms of their event structure, and will also be discussed in Chapter Five.

As has already been pointed out, (52) represents an oversimplification even of the meaning of the simple past: in order to determine whether the simple past is used deictically (characterised as ante wrt GPT) or anaphorically (simul wrt GST), we need to have available semantic and pragmatic information. For instance, the aspectual perspective of a sentence often depends on the inherent aspectual class ('aktionsart') of the predicate; hence, stative simple past sentences, such as *Mary was unconscious* and *John was in London* are clearly anaphoric temporally. I shall discuss this issue in more detail in the next chapter.

Chapter Three

Aspectual Class and Perspective

3.1. Introduction

In the previous chapter, the notion of autonomous and nonautonomous tenses was introduced, and it was argued that the autonomy of a sentence is determined by a number of semantic factors, including the inherent aspectual class of the predicate. In this chapter, I take a closer look at the factors influencing the temporal interpretation of sentences, with special emphasis on the interrelation of predicate type, perfectivity and autonomy.

Perfectivity can be analysed at three different levels. First, we have the *morpho-syntactic* level which relates to the grammaticalisation of perfectivity. In some languages, (e.g. in Slavonic ones) the aspectual opposition between perfective and imperfective is indicated by derivational morphology; i.e. there are distinct forms for perfective and imperfective verbs. There are also syntactic means for expressing perfectivity. For instance, as we shall see in Chapter Four, in Finnish the aspectual perspective of a sentence is in many instances determined by the case-marking of the object NP.

Second, we can analyse the aspectual perspective of the whole sentence, which is determined on the basis of such *semantic* factors as the meaning of the tense/aspect form involved, the inherent aspectual class of the predicate, as well as the nature of the temporal adverbials present in the sentence.

Third, we can determine the aspectual perspective of a sentence at the *discourse* level, taking into account the context in which the sentence occurs. For instance, a semantically nonautonomous sentence can be re-interpreted as autonomous on the basis of contextual information, including discourse structure and knowledge of the world.



English lacks a grammatical means of expressing perfectivity (e.g. *John sang* can describe either a completed or uncompleted event); however, the progressive form is often considered as the imperfective aspect (e.g. *John is singing* is unambiguously incomplete). Thus, English is generally assumed to have an *unmarked-imperfective* aspectual system.¹ In the sections dealing with the English simple past, I am therefore mainly concerned with the interaction between the semantic and the discourse levels; i.e. how semantic and pragmatic information together are used to determine the aspectual perspective of a simple past sentence. (By contrast, when discussing the expression of perfectivity in Finnish in Chapter Four I am mainly concerned with the interaction between the grammatical and semantic levels: Finnish grammaticalises the imperfective-perfective opposition to a large extent; hence, there are few sentence-level ambiguities with respect to perfectivity.)

The most important questions that I attempt to answer in this chapter are:

1. How does perfectivity relate to the notions of *completion* or *termination*, and how do these notions in turn relate to the notion of **telicity**?
2. What is the relevance of the stative-dynamic distinction, both at the lexical and at the sentence level, and how does this distinction relate to notions such as *motionality*, *agentivity* and *intentionality*?

Telic processes can be defined as "processes that have a built-in terminal point that is reached in the normal course of events and beyond which the process cannot continue" (Nakhimovsky, 1988:34). Thus, *Mary was singing a song* describes a telic situation, while *Mary was singing* is atelic. In addition to telic/atelic sentences, I shall talk about of **bounded** and **unbounded** sentences.² As we shall see, my notion of boundedness subsumes the traditional notions of telicity and perfectivity: a bounded sentence is one which refers to a completed or terminated event, whether the event in question be telic or atelic, or punctual or durative.

The concept of 'dynamicity' proposed here is broader than is generally assumed. In my system, dynamic predicates include not only traditional activity predicates, such as *run* and *push*, but also predicates like *stand* and *lie*, which are

¹Strictly speaking, English does not have an Imperfective aspect in the sense e.g. Slavonic languages do; rather, the English progressive represents one of the submeanings of the Imperfective aspect (see Comrie, 1976: 24-5).

²Of course, it is not sentences that are bounded, dynamic, telic etc., but situations represented by them. So whenever I talk about e.g. a "telic sentence", I am really referring to a linguistic representation of a telic situation. Similarly, a telic or a bounded predicate is a predicate which (because of its inherent meaning) refers to a telic or bounded situation.

characterised as denoting a situation requiring 'energy'. I shall argue then that dynamic predicates/situations can be subdivided into **motion** (denoted by e.g. *run*, *push*, and *write*), and **nonmotion** ones (denoted by e.g. *lie*, *sleep*, and *stand*). Furthermore, the motion-nonmotion distinction can be made at two different levels: it can describe an intrinsic property of predicates, or a property of sentences: motional sentences are bounded (autonomous), and can be used to move the narrative (e.g. *John ran away*), while nonmotion (locative) sentences are unbounded (nonautonomous), and do not move the narrative (e.g. *John was running*).

Various different typologies have been suggested for the aspectual class (*aktionsart*) of verbs (and verb phrases). For instance, in Vendler's (1967) well-known work, four verb types are distinguished:³

- | | |
|-----------------|--|
| (1) STATE: | love, know, be, have,
believe |
| ACTIVITY: | run, walk, push a cart, |
| ACCOMPLISHMENT: | draw a circle, paint
a picture, make a chair |
| ACHIEVEMENT: | win a race, reach a summit,
find a penny,
recognise a person |

Vendler has also suggested various syntactic tests for distinguishing between the four verb types. The following are some of the tests that can be used to distinguish telic and atelic predicates (or, rather, accomplishments and the two atelic categories, viz. activities and states):

³Kenny (1963) distinguishes three verb types, viz. activities, performances and states, i.e. he does not distinguish between achievements and accomplishments. However, I discuss Vendler's system here as I find it useful to differentiate between punctual and durative situations.

(2)

1. Telic predicates can combine with durational adverbials answering the question *Within what time?* (IN-adverbials), while atelic predicates combine with durational adverbials answering the question *For how long?* (FOR-adverbials):
 - a. John built a house in/*for three days.
(accomplishment)
 - b. John pushed the cart for/*in half an hour.
(activity)
 - c. John was ill for/*in two days.
(state)
2. Only telic predicates can occur in the It took X y time to V-construction:
 - a. It took John three hours to write the letter.
 - b.*It took John three hours to run.
 - c.*It took John three days to be ill.
3. If X is Ving implies X has Ved, then the V is atelic; otherwise it is telic:
 - a. Mary is singing => Mary has sung.
 - b. Mary is singing a song * => Mary has sung a song.

Stative and dynamic predicates (i.e. states and the other three categories) can be distinguished using the following syntactic criteria:

(3)

1. Only nonstatives occur in the progressive form:
 - a.*John is loving Mary/knowing the answer. (state)
 - b. John is running. (activity)
 - c. John is building a house. (accomplishment)
2. Only nonstatives occur as imperatives:
 - a.*Know the answer/Be tall! (state)
 - b. Swim! (activity)
 - c. Bake a cake! (accomplishment)
3. Only nonstatives occur in the pseudo-cleft construction:
 - a.*What John did was be tall. (state)
 - b. What John did was run. (activity)
 - c. What John did was build a house. (accomplishment)

Finally, there are a couple of tests for distinguishing between punctual and durative predicates (i.e. achievements and accomplishments):

(4)

1. Punctuals sound odd with both FOR- and IN-adverbials:
 - a. John built a house *for/in three days.
(accomplishment)
 - b. John noticed the girl/found a penny
*for/*in three minutes. (achievement)
2. Only duratives can occur in the X spent y time Ving- construction:
 - a. John spent an hour making a chair/baking a cake.
(achievement)
 - b. *John spent an hour reaching the top/winning the race.
(accomplishment)

The adequacy of these diagnostic tests, hence the validity of the Vendler typology, has been called into question by a number of linguists. For instance, Verkuyl (1989) argues that both the progressive and the imperative tests are crucially dependent on notions such as *agentivity*, rather than on the temporal properties of the predicates. Mourelatos (1981) has also pointed out that the Vendler/Kenny typologies are too narrowly conceived; they depend on agentivity when in fact they should be applicable to topic-neutral situations. Furthermore, many linguists refuse to accept the validity of the FOR/IN-tests; for instance, Zegarac (1991) argues that accomplishments can combine with FOR-adverbials, and Verkuyl (1989) claims that IN-adverbials are perfectly acceptable with punctual predicates. I shall return to these problems throughout this chapter.

So far we have been talking about the aspectual class of *verbs* and *predicates*. However, it is well-known that the aspectual perspective of a sentence is determined compositionally, on the basis of the semantics of the subject, the object, and also the indirect (prepositional) object (cf. e.g. Verkuyl, 1972). For instance, the sentences in (5) and (6) demonstrate how the syntax and semantics of the object NP can determine the aspect of the whole sentence:

- (5) a. Bill ate a sandwich *for/in an hour.
b. Bill ate sandwiches for/*in an hour.
- (6) a. Bill drank a pint of water *for/in an hour.
b. Bill drank water for/*in an hour.

(5a) and (6a) are bounded as their object NP indicates a specified quantity, while (5b) and (6b) are unbounded since *sandwiches* and *water* refer to an unspecified quantity. (Note that the term 'bounded' is often used interchangeably with the term 'perfective' in current aspectual theories).

The nature of the subject NP also influences the interpretation of the whole sentence. (7a) and (8a) are clearly bounded, while (7b) and (8b) are unbounded:

- (7) a. !For years, John discovered that quaint little village.
 b. For years, tourists discovered that quaint little village.
- (8) a. !A gallon of water ran out of the tap all afternoon.
 b. Water ran out of the tap all afternoon.

(The exclamation mark indicates that a sentence is unacceptable on a nonrepetitive reading).

The indirect objects also play a role in determining the aspectual perspective of the sentence. Consider the following in this respect:

- (9) a. !John gave a rose to the passerby all afternoon.
 b. John gave a rose to the passersby all afternoon.

Again, (9a) is clearly bounded (on a nonrepetitive reading), while (9b) is clearly unbounded.

Finally, the aspectual perspective of a sentence is naturally also determined by the grammatical form used, regardless of the inherent class of the predicate. Thus, the simple past sentences in (10a) are bounded, while the progressive sentences in (10b) are unbounded:

- (10) a. John painted a picture/ran to the beach.
 b. John was painting a picture/running to the beach.

It is useful then to introduce in this connection the notion of **Basic Proposition**. A Basic Proposition is a tenseless clause which has a syntactically and semantically singular object and subject, and from which all other temporal information is excluded (cf. e.g. Vlach, 1981). Moreover, the boundedness of a basic proposition depends on the inherent class of the predicate, so we get the following 4-way classification:

- (11) accomplishments: MAX WRITE A LETTER => bounded
 achievements: MAX WIN THE RACE => bounded
 activities: MAX RUN => unbounded
 states: MAX BE ILL => unbounded

It is generally assumed that the simple past does not alter the boundedness value of a basic proposition, so *Max wrote a letter* and *Max won the race* are bounded, while *Max ran* and *Max was ill* are unbounded. By contrast, the progressive is an operator whose function it is to unbound a bounded proposition:

- (12)
- PROG[unbounded] MAX WRITE A LETTER [bounded] = unbounded
 MAX WIN THE RACE [bounded] = unbounded

We can then distinguish the following three types of proposition/sentence:

(13) I DECONTEXTUALISED:

- a. Basic
- b. Extended

II CONTEXTUALISED⁴

As we have seen, the level of Basic Proposition relates to the aspectual class (aktionsart) of predicates; hence, at this level of description we are concerned with notions such as dynamicity, telicity and punctuality. Extended sentences in turn are basic propositions modified by intrasentential operators, such as the progressive, the perfect, durational adverbials, frequency adverbials and plural subject/object NPs⁵: at this level we are concerned with notions such as perfectivity and completion. Finally, Contextualised sentences are Extended sentences whose aspectual perspective is determined by the discourse context.

In this chapter, I shall be mainly concerned with *nonrepetitive* Extended and Contextualised sentences, i.e. tensed sentences which contain a syntactically and semantically atomic subject and object NP, and may contain a durational temporal adverbial. In other words, I shall look at the effect of the simple past and the progressive operators on the different classes of basic proposition, as well as the effect of the discourse context on the interpretation of different sentence types.

3.2. Grammatical Aspect and Perfectivity

3.2.1. Introduction

There are a number of linguists who argue that each tense/aspect form has just one meaning, and all its various uses are but a function of the context. In other words, they claim that syntax is a reliable guide for semantic interpretation.

We can distinguish two main strands of the Basic Meaning Theory. In both approaches, the meaning of the simple past remains constant across situation types, but according to the first one, represented by e.g. Smith (1986) and King (1984), and introduced in 3.2.2., the simple past always expresses perfectivity, presenting the situation in its entirety, while according to the latter view,

⁴I have borrowed the terms 'extended proposition' and 'contextualised proposition' from Caenepeel (1989).

⁵Unbounded repetitive sentences include those expressing *habituality*, as e.g. *Every day, Mary had a cup of coffee at 8 am*, or *He always went to work at 12*.

represented by e.g. Comrie (1985), Nakhimovsky (1988) and Zegarac (1991), and introduced in 3.2.3., the simple past sentences are always vague with regard to completion.

In this section, I wish to take issue with some of the views presented within Basic Meaning Theory; specifically, the following claims are made in Section 3.2.4:

1. Not all simple past sentences are vague with respect to completion; achievement sentences, and some accomplishment sentences, are inherently bounded.
2. The default interpretation for stative sentences is unbounded, and for activity sentences bounded; the latter, being dynamic, form a subgroup with achievements/accomplishments, rather than with statives.
3. The crucial point is whether a situation is *presented* as being terminated, rather than whether it is *actually* completed/terminated; furthermore, autonomy is determined by termination rather than by completion.

3.2.2. Basic Meaning Theory I

Smith's (1986) theory is based on the distinction between **situation aspect** and **viewpoint aspect**: the former involves the linguistic forms and meanings associated with universal *idealised situation types*, known as 'aktionsarten' (achievements, accomplishments, activities and states), while the latter involves the forms and meanings associated with the perfective and imperfective perspectives.

Smith points out that the focus of these perspectives differs somewhat from language to language. So in English, viewpoint aspect is dependent on situation aspect: the progressive viewpoint is limited to certain types of situation aspect, and the simple viewpoint varies in interpretation according to the type of situation.⁶ Specifically, the progressive viewpoint is limited to those situations which have both initial and final endpoints in their idealised representations, which is why it is not available to stative situations. The simple aspect in turn presents a perfective

⁶In French, the *imparfait* is available to all situations types, and it presents the situation as continuing in all cases. Similarly, the interpretation of *passé composé* sentences is consistent across situation types:

- a. Elle a travaillé dix heures ce jour-là. (activity)
- b. Il est entré et s'est assis à son bureau. (accomplishment)
- c. Marie a été riche. (state)
- d. Nous sommes sorties tous les jours. (habitual)

Thus, in (a-d), the situation is presented unambiguously as completed or terminated.

viewpoint; i.e. it indicates a situation as a whole, complete with initial and final endpoints. The problem is then that several classes of sentences with simple aspect have a different interpretation. Consider the sentences in (14) in this respect:

- (14) a. James fixed the clock.
b. Mr Ramsey reached the lighthouse.
c. Lily strolled along the beach.
d. The visitors lived in London.
e. Prue always swam in the pool.

According to Smith, examples (14a-c) have the expected interpretations: events have both initial and final endpoints, and involve termination (in the case of (c)), or completion ((a) and (b)), depending on the types of event (activity and accomplishment/achievement, respectively). However, (14d) and (14e) have a different reading: the states they describe can continue into the present moment, and they are not associated with endpoints. Note further that (14a-c) behave differently from (14d) and (14e) with regard to the following entailment test:

- (14') a. *James fixed the clock and he is still fixing it.
b. *Mr Ramsey reached the lighthouse, and he is still reaching it.
c. *Lily strolled along the beach and she is still strolling along the beach.
d. The visitors lived in London, and still do.
e. Prue always swam in the pool, and I think she still does.

According to Smith, the implicature of completion/termination is conventionally (linguistically) expressed in the case of (14a-c); it cannot be cancelled, as is illustrated by (a'), (b'), and (c'). In the case of (d') and (e'), the interpretation of termination is the *preferred* one, if there is no conflicting information. However, this implicature of completion *can* be cancelled, which suggests that here the implicature is conversational (pragmatic) à la Grice (1975).

However, Smith claims that the above does not pose a problem if we separate viewpoint aspect and situation type aspect. Since different situation types have different endpoint properties, the central meaning of the simple past (i.e. that the situation is presented in its entirety) is interpreted differently for each situation type. Specifically, achievements and accomplishments involve completion; hence endpoints; activities are represented as terminated; hence their *idealised* situation types also have endpoints. However, the idealised situation types of statives do not have endpoints; hence, they are interpreted differently from the other situation types, as are habitual sentences.

A similar view is held by King (1984), who criticises semantic accounts based on contextual *uses* of particular tenses. Briefly, in King's system, each grammatical (verb) form has a basic meaning that is constant in every use of the form. Real world time is considered to be a function of context, and hence the meaning of a verbal form must be independent of information related to the real world, including lexical information conveyed by the main verb.

King argues then that the speaker uses nonprogressive forms when viewing the situation in its entirety, in which case the sentence expresses *perfective* aspect, regardless of the (inherent) aspectual class of the predicate. Thus, both (15a) and (15b)

- (15) a. Bob wrote a letter. (accomplishment)
b. Bob loved Mary. (state)

are considered to be perfective. By contrast, progressive forms are used to express *imperfective* aspect, i.e. to focus on the middle of the situation, whether it is the middle of an event, as in (16a) or, for instance, the middle of an intention, as in (16b):

- (16) a. Bob is writing a letter.
b. We are leaving tomorrow.

3.2.3. Basic Meaning Theory II

Comrie (1985) claims that languages like English, which do not have a morphological perfective, lack a linguistic means of expressing completion. Thus, the *basic* meaning of the past tense in English, including the progressive form, is location in time prior to the present moment, and any further deductions about temporal location result from factors other than simply the choice of tense. For instance, Comrie claims that the progressive clause in (17)

- (17) John was eating his lunch when I looked into his room.

says nothing about whether the situation of John eating his lunch continues to the present; it merely locates the situation prior to the present moment. Admittedly, there is often a conversational implicature that the situation does not continue to or beyond the present, as in (18):

- (18) John used to like swimming.

However, Comrie emphasises the fact that this interpretation of termination is indeed an *implicature* and not part of the *meaning* of the simple past.

A slightly different view is held by Nakhimovsky (1988), who argues that English has an imperfective-unmarked aspectual system. According to Nakhimovsky, the progressive form functions as the imperfective aspect, while there is no perfective aspect in English. It is true, he points out, that a sentence such as *Vanessa read a magazine article about Mongolia* suggest a perfective aspectual perspective; however, this is only a default interpretation, and can be cancelled, as the example in (19) illustrates:

- (19) After supper, Vanessa and Didi sat down in the living room. Vanessa read a magazine article about Mongolia. Didi watched her favourite cartoon on TV. Suddenly, the doorbell rang.

Nakhimovsky also discusses the example in (20):

- (20) When the children crossed the road
- a. they waited for the teacher to give a signal.
 - b. they stepped onto its concrete surface as if it were about to swallow them.
 - c. they were nearly hit by a car.
 - d. they reached the other side stricken with fear.
 - e. they found themselves surrounded by strangers.

First of all, Nakhimovsky argues that the lexical representations of non-instantaneous predicates consists of the following components:

- (21)
1. Preparatory stage
 2. Initial stage
 3. Body
 4. Final stage
 5. Resulting stage

He further claims that the aspectual perspective of a sentence depends on the location of the Temporal Focus, which is a point or a short interval describing the current focus of attention. Specifically, a sentence has an **imperfective** perspective if the TF is positioned inside the body, as in (20a) (20b) and (20c), where (20a) refers to the preparatory stage, (20b) to the initial stage, and (20c) to the body of the event described in the *when*-clause. By contrast, a sentence has a **perfective** perspective if the TF is positioned after the final stage, as in (20d) and (20e), where (20d) refers to the final, and (20e) to the resulting stage of the *when*-clause event.

Nakhimovsky argues then that a perfective sentence perspective emerges not so much from the *linguistic* properties of the verb phrase as from commonsense knowledge about the situation it describes. He emphasises that *telicity* and *perfectivity* should not be confused: the latter is not determined by the former; hence, simple past sentences involving a telic predicate, such as *cross* and *read*, are not perfective, but are vague with respect to completion.

Thus, Nakhimovsky is critical of classificatory systems which divide situation types into *states*, *processes* and *events* (e.g. Mourelatos, 1981). According to Nakhimovsky, the state-process (static-dynamic) distinction reflects the inherent *lexical* meaning of predicates, while the process-event distinction has to do with the aspectual perspective of *sentences*. He claims then that these tripartite systems fail to account for the fact that we can have *perfective* state sentences (22a); *perfective* process sentences (22b) and *imperfective* event sentences (22c):

- (22) a. He took a nap.
b. He did some letter writing.
c. He was writing a letter.

Zegarac (1991) also argues that whether a predicate in the simple form denotes a complete event or an incomplete one is a matter of interpretation, and is not *linguistically* encoded. He is critical of the view taken by e.g. Smith (1986) according to which completion is semantically determined in the case of achievements, accomplishments and activities. Zegarac discusses the following accomplishment sentences:

- (23) a. Mary played the sonata.
b. Mary was very nervous. She played the sonata for a while, but had to stop when she was half way through.

In (23a) the simple form of the predicate *play the sonata* strongly invites a completive interpretation; however, this reading is only a pragmatic inference, as is illustrated by (23b), which has an incompletive interpretation. Thus, Zegarac argues that although completion is the *default* interpretation for accomplishment sentences with simple aspect (e.g. for (23a)), it is possible to devise contexts in which an accomplishment sentence has an incompletive interpretation, as in (23b).⁷

This is also true of activity and state sentences, as is illustrated by (24) and (25), respectively:

⁷Zegarac also claims that the sentences in (a) are more acceptable than those in (b):

- a. John built the house for three days/played the sonata for 10 minutes.
b. John built a house for three days/composed a sonata for 10 minutes.

According to him, in (b) the very existence of the referent is dependent on the change denoted by the verb; hence, the completive reading is unavailable. By contrast, the definite article in (a) indicates that the referent is readily accessible, which is why the incompletive reading is less odd. However, most native speakers seem to reject the sentences in both (a) and (b).

- (24) a. They ran for the shelter when they heard the alarm.
 b. John ran for several hours this morning, and for all I know, he may still be running.
- (25) Macbeth believed in ghosts when he saw Banquo.

(24a) has a perfective (inchoative) reading, while (24b) is imperfective in the sense that it is interpreted as referring to an incomplete event. Similarly, (25) can have the following two interpretations: it can either mean that Macbeth began to believe in hosts upon seeing Banquo, or it can mean that Macbeth already believed in ghosts when he saw Banquo.

Zegarac concludes then that the interpretation of completion is pragmatically determined in the case of *all* situation types.

3.2.4. Conclusion

The Basic Meaning Theory is an attractive one; however, there are a number of problems with the views presented above.

First of all, Comrie's view of the meaning of all past forms is based on the mistaken assumption that all past tenses in non-finite clauses in English are deictic, i.e. interpreted as expressing anteriority with respect to the utterance time. As was pointed out above, there are good reasons for dividing tensed propositions into autonomous (deictic) and non-autonomous, and assume that only the former are interpreted with respect to the speech time, while the latter are evaluated with respect to some other previously established anterior time interval. Thus, we can say that the past progressive in *John was eating his lunch when I looked into his room* presents the event of John eating his lunch as overlapping its antecedent, the *when*-clause event. Whether or not the past progressive event continues to the present has no relevance to the temporal interpretation of the clause.

Secondly, although there is no perfective aspect in English, it seems clear to me that telicity determines the aspectual perspective of simple past sentences in the sense that atomic telic sentences are always perfective. Consider again the sentences in (20). My claim is that *When the children crossed the road* has a perfective aspectual perspective in each case; it cannot be said to be "imperfective", even when followed by (20a-c), in the way the corresponding progressive clause *When the children were crossing the road* is. Instead, it could be argued that the *when*-clause makes the whole *event structure* (beginning, middle and end) available for focusing, and (20a-c) refer to the various phases (subevents) of the *when*-clause event.

It is true that there are predicates, such as *play the sonata*, which are ambiguous with regard to completion in atomic sentences. The term 'zero-bounded' has been used to describe such ambiguity. For instance, Declerck (1979) has divided sentences into **bounded**, **unbounded** and **zero-bounded**. One of her criteria for distinguishing the three sentence types is their compatibility with durational adverbial: bounded sentences are compatible with IN-adverbials (26a); unbounded sentences are compatible with FOR-adverbials (26b), and zero-bounded sentences can contain either type of adverbial (26c):

- (26) a. Kevin wrote a letter *for/in an hour.
b. Trevor watched TV for/*in an hour.
c. Bob read the book for/in an hour.

Thus, in the case of zero-bounded sentences, the durational adverbial can be used to disambiguate between the bounded and the unbounded reading.

Furthermore, Declerck distinguishes three types of zero-bounded sentences:⁸

1. those containing a predicate which denotes a process leading up to a relative terminal point (27a);
2. those containing a predicate which denotes a process leading up to a terminal point, as well as individual stages in that process (27b), and
3. those which refer to linear movement and which contain a cumulative internally-dispersive object NP that is vague with respect to boundedness (27c):⁹

- (27) a. Mary sharpened the knife (for/in six minutes).
b. The ice melted (for/in two hours).
c. The man read the novel for/in half an hour.

We can now see that Zegarac's *play the sonata*-example in (23) involves this latter kind of zero-bounded predicate. Similarly, Nakhimovsky's example (19) involves two zero-bounded predicates, *watch a cartoon* and *read a magazine*, which is probably why the imperfective reading is just about possible. However, with clearly bounded predicates (e.g. *fix the radio* and *bake a cake*), noncompletion would be a highly unlikely interpretation.

⁸Fillmore (1971b), too, has pointed out that e.g. *comb the hair* and *read the book* are equally felicitous with both FOR- and IN-adverbials:

- a. Mary combed her hair for/in ten minutes.
b. John read the book for/in two hours.

Similarly, Dowty (1979) mentions zero-bounded predicates denoting a relative terminal point, such as *cool*, *age* and *sink*. He calls them *degree* terms.

⁹'Internally-dispersive, cumulative' NPs are defined as NPs which denote a divisible entity, or a set of entities, an increasing number of which gets involved in the process. The boundedness value of these kinds of NPs depends e.g. on the kind of verb they occur with. I shall discuss these NPs further in Section 3.3.

Two facts should, however, be mentioned in this connection. First, not all accomplishment sentences are zero-bounded, and second, achievement sentences (which are not discussed by any of the above-mentioned theorists) are inherently bounded. Consider the examples in (28) in this respect:

- (28) a. *Bob completed the task/walked to the station/
destroyed the building/transformed his life
for an hour. (accomplishments)
- b. *Mary reached the summit/arrived at the station/
won the race for an hour. (achievements)

According to Zegarac, all simple past sentences in English are zero-bounded (to use Declerck's terminology); hence, they are in principle acceptable with the FOR-adverbial (though see footnote 7). However, it seems clear to me all the sentences in (28a) and (28b) are ungrammatical: the sentences in (28a) are unacceptable with the FOR-adverbial because the inherent meaning of each predicate forces a completive reading for the whole sentence, and the sentences in (28b) are similarly unacceptable because they do not denote a process which has "successive phases". (I shall discuss this further in connection with the punctual-durative distinction in Section 3.3.).

My claim is then that achievement and accomplishment (with the exception of zero-bounded) predicates are inherently bounded; hence, atomic sentences containing these two categories are always perfective.¹⁰ I also claim that the other two categories (states and activities, including zero-bounded predicates) are unbounded or vague with respect to completion in different ways. However, unlike Smith, I do not assume that the crucial distinguishing factor is the endpoint properties associated with each situation type, but the *dynamicity (motionalilty)* denoted by the predicates.

It is generally assumed that states and activities form a natural subclass, since they both refer to unbounded (atelic) situations, as is illustrated by (29):

- (29) a. John was ill for/*in six weeks. (state)
b. John ran for/*in six hours. (activity)

However, on a different set of criteria, activities, accomplishments and achievements turn out to form a class. The one thing they have in common, which sets them apart from states, is that they they all represent dynamic processes involving *motion*. For one thing, the *default* interpretation for the dynamic predicate types in simple past sentences is completion (or rather, termination),

¹⁰In fact, Declerck argues that boundedness is only applicable to nonatomic (nonpunctual) sentences, but if we assume, as she does, that states are inherently unbounded, then we can similarly argue that achievements are inherently bounded.

while the default interpretation of stative sentences is noncompletion. Consider the examples in (30) and (31) in this respect:

- (30) a. Bob ran/screamed/laughed. (activities)
b. Kevin read an article/played the sonata.
(zero-bounded predicates)
- (31) Bob was ill/believed in ghosts/owned a restaurant/
was in London.

The sentences in (30) express either inchoativity (30a) or completion (30b), but in both cases the aspectual perspective of the sentence is perfective. By contrast, the default interpretation of the sentences in (31) is clearly imperfective.

Thus, dynamic predicate types occur in temporally *autonomous* sentences, which means, among other things, that they can be used to move the narrative forward:

- (32) a. When Mary arrived, John ran.
b. Mary smiled and opened the window.
c. John winked and handed me the parcel.

More important, they *cannot* be used to refer to ongoing activity in sentences like the following:

- (33) a. John ran/smiled/screamed/talked when we arrived.
b. John played the sonata/crossed the road
when he saw Mary.

It is clear that the sentences in (33) can only be interpreted as referring to the beginning of an activity in the case of (33a), or perhaps to the whole event in the case of (33b), but they cannot be interpreted as referring to the middle of a situation. In cases like this, activities behave like achievements; hence, both (33a) and (33b) are clearly perfective.

As we have seen, the opposite is true for prototypical state sentences, which usually occur in nonautonomous sentences, and refer to the middle of the situation in examples like the following:

- (34) a. John was unconscious at 2pm.
b. Mary had a cold when I rang her.
c. Bill walked into the living room.
It was pitch dark around him.

However, there are contexts in which prototypical activities are used to refer to unbounded situations; hence, behave like states. Consider (35) in this respect:

- (35) a. Three little girls were standing in the tubs (state)
 b. and tramping up and down (state).
 c. They screamed (activity),
 d. their hair fell over their faces (activity), and
 e. they splashed one another (activity).

(This example is from K. Mansfield, *The Man without a Temperament*: 12, via Caenepeel (1989)). However, as Caenepeel (1989) has pointed out, processes can have this kind of interpretation only when forming part of a "state complex", i.e. when occurring with (contingent) states (cf. (35a) and (35b)). Moreover, processes do not seem to lose completely their dynamic quality even when describing unbounded situations.¹¹

It is also the case that in certain circumstances states can be used inchoatively; hence, stative sentences can move the narrative forward:

- (36) a. I knew it the minute I saw him.
 b. He switched the lights off. It was pitch-dark around him.
 c. Mary was furious when I told her the news.

In (36) the stative predicates seem to be re-interpreted as dynamic predicates, which denote a change of state. So *be* in (36b) and (36c) really means 'become', and *know* in (36a) means 'realise'. Again, there are restrictions on the use of a stative verb in this sort of context. For instance, the state described in the second clause in (36b) is the direct consequence of the action described in the first clause; in a different kind of context, e.g. in *It was pitch-dark when I entered the room*, *be pitch-dark* cannot have an inchoative reading. Similarly, the adjective in (36c) needs to be *agentive* in order to be given an inchoative interpretation; for instance, the main clause in *Mary was pale/hungry when I told her the news* can only be interpreted as referring to an ongoing state ('Agentive' and 'Nonagentive' states will be discussed further in Section 3.4.).

Another thing to note is that although the presence of a FOR-adverbial is generally assumed to indicate an inchoative reading for e.g. the sentences in (27), it is clear that the events are nevertheless presented as being *terminated*. In other words, a FOR-adverbial may be used to *bound* an unbounded atomic proposition. This is, of course, not the way Declerck would use the term 'bounded'.¹² However, in my view it is desirable to dissociate the notion of boundedness from the

¹¹Nakhimovsky (1988) has pointed out that there is a strong limit on how long an embedded narrative can be continued in the past perfect. The same thing may apply to the progressive form: it is difficult to process long sequences of progressive sentences, which may be why the simple form is used in (35c, d and e).

¹²Neither does this correspond to Dahl's (Dahl, 1985) use of the term as in his system 'boundedness' is tied up with the morphological form of the verb (perfective vs. imperfective), rather than with 'perceived termination'.

traditional notion of telicity, especially when dealing with the temporal structure of narratives. Consider the examples in (37):

- (37) a. John played (the sonata) for 5 minutes
and then got up.
b. John swam for half an hour and then returned home.

It is clear that the FOR-adverbial in each case indicates that the event denoted by the VP is terminated. Thus, the FOR-adverbial has the same bounding effect as an NP or PP in cases like the following:

- (38) a. John played two sonatas/a violin concerto.
b. John swam a mile.
c. John walked to the bank.

Consider, too, the example in (39):

- (39) John ran for several hours this morning (and for all I know, he may still be running).

According to Zegarac, the implication of completion for the running event is not linguistically encoded as it can be cancelled in certain contexts. However, it is important to emphasise once again that whether or not the event is *actually* terminated is irrelevant; what is relevant is that the event is *presented* as being terminated.

Thus, when analysing the temporal structure of narratives, it is important to keep separate the notions of completion and termination; autonomy is determined by the latter, and not by the former. A sentence is bounded, hence autonomous, if it is interpreted as denoting either a completed event (as is the case with telic activities such as writing a letter), or a terminated event (as is the case with atelic activities such as writing, laughing and pushing a cart).

3.3. Punctual and Durative Predicates

3.3.1. Introduction

Vendler's (1967) classification has by and large been adopted by linguists, though these days it is customary to refer to *situation types*, and not to *verb types*. Moreover, a number of different terms are used for the distinctions; for instance, activities are often termed 'processes', and the 'accomplishment-achievement' distinction is often referred to as the 'durative-punctual' distinction.

In this section, I take a closer look at the punctual-durative distinction. In 3.3.2. two different classificatory systems are introduced, viz. a system by Nakhimovsky (1988), which is based on the ontology of events, and a system by Moens and Steedman (1988), based on the notion of 'event structure.' In 3.3.3. an alternative view is outlined, viz. that proposed by Verkuyl (1989), who argues against the punctual-durative distinction. Finally, the following two claims are made in Section 3.3.4:

1. The punctual-durative distinction is linguistically relevant, and
2. the crucial factor here is not the *duration* of events, but their *internal structure*: specifically, only durative events are associated with a beginning, middle and end.

3.3.2. Two Classifications of Predicates

Nakhimovsky (1988) divides predicates into **instantaneous** and **non-instantaneous** ones. The latter can be further divided into **states** and **processes**, and processes into **telic** and **atelic**. (I shall discuss his instantaneous-noninstantaneous distinction in this section, and the state-process one in 3.4.).

Nakhimovsky (1988:31) argues that "instantaneousness is an absolute quality determined by our biology: instantaneous events are those that are not perceived by humans as possessing internal structure". Moreover, languages select such events for special treatment by disallowing the "imperfective" description of them: one cannot use the imperfective aspect to place the RT (the current focus of attention) in the middle of an instantaneous event, so that *The light was flashing* does not place the RT inside an individual flash.

Nakhimovsky argues that lacking internal structure, instantaneous events have to be classified by comparing the world before and after them. An instantaneous event can terminate a process or a state; if it is sandwiched between two processes or two states, the two can be the same or different. The following three predicate types are then distinguished:

(40)

state-E-same state:	HAPPENING:	(flash, cough, blink)
state-E-different state:	TRANSITION:	(recognise, notice)
process-E-state:	CULMINATION:	(win the race, reach the top)

Nakhimovsky then points out that the three types of instantaneous predicates behave differently with respect to e.g. the progressive form:

- (41) a. The light was flashing.
 b. He's been noticing that Mary is getting fat.
 c. The traveller was reaching the top.

First of all, happenings in the progressive form describe a sequence of instantaneous events, i.e. they have an iterative interpretation, as in (41a). Transitions in turn are associated with plurality, so in (41b) the act of noticing is interpreted as having taken place on many occasions. Finally, culmination sentences, e.g. (41c), can be taken to refer to the preparatory stage of the event described. However, all the three cases are similar in that the RT is *not* placed inside the individual event.

We have already mentioned in the previous chapters that Moens and Steedman (1988) describe the temporal structure of discourse in terms of a *event structure*, consisting of a preparatory phase, culmination and consequent phase. This notion has also relevance to the classification of predicates. Moens and Steedman (1988) classify predicates along two dimensions: (1) whether or not the predicates describe an atomic event (a point) or an extended one (a process), and (2) whether or not they are associated with certain consequences. Predicates are then classified as follows:

(42)	ATOMIC	EXTENDED
+CONSEQ:	Culmination (recognise, spot, win the race)	Culminated Process (build a house, eat a sandwich)
-CONSEQ:	Point (hiccup, tap, wink)	Process (run, swim, walk, play the piano)

As to the -,+conseq distinction, Moens and Steedman argue that only certain event types are associated with consequences in the sense that they are viewed as being **contingently** related to other events under discussion by either *causing* them or *enabling* them. So, although both points and processes can be associated with *de facto* consequences, Moens and Steedman claim that these are not relevant to the temporal interpretation of sentences in discourse. (I shall return to this issue in Chapter Seven).

Moens and Steedman also argue that a particular grammatical aspect requires a certain type as their input, although other types can be *coerced* into this required type. For instance, the progressive form requires its input to denote a process, so it can naturally be combined unproblematically with process predicates, as in (43):

- (43) John was speaking.

If the input to a progressive is a point, it can be coerced into a process by being iterated:

(44) John was hiccupping.

If a progressive combines with a culminated process, as in (45):

(45) Roger was running a mile.

then the latter must also be coerced to become a process, by stripping off the culmination and leaving the preparatory process behind. The basic difference between culminations and culminated processes is that only the latter are associated with a preparatory process. This is why the operation coercing a culmination into a process, as in (46):

(46) Roger was reaching the top.

requires an extra step. First, a preparatory process is added to the culmination to make it a culminated process; then, as before, the culmination point is stripped of its consequences. Thus, Moens and Steedman claim that the reason why it is more difficult to combine culminations with a progressive form (as is pointed out by Vendler (1967)) is that culminations undergo more transitions than culminated processes.

Both culminations and culminated processes combine with IN-adverbials, which denote the duration of the preparatory phase:

- (47) a. Laura wrote the letter in two minutes.
(Culminated Process)
b. Laura reached the top in two hours. (Culmination)

However, it seems that the preparatory phase must be associated with a *voluntary* act; hence the unacceptability of the sentences in (48):

- (48) a. *John noticed the error in two minutes.
b. *John recognised the man in two minutes.

3.3.3. Against the Punctual-Durative Distinction

Not all linguists accept the relevance of the punctual-durative distinction; for instance, Verkuyl (1989) claims that there is no ground for distinguishing achievement terms from accomplishment terms.¹³ Verkuyl claims that the main

¹³The same view is taken by Dowty (1986), who argues that many events classified as achievements do have some duration.

problem with Vendler's classification is that in it the similarities between states and achievements are overemphasised while the similarities between accomplishments and achievements are overlooked. In this section, I shall concentrate on this latter problem.¹⁴

Verkuyl argues then that according to many criteria, achievements and accomplishments form a natural class, which fact is to a large extent ignored by Vendler. First, both achievements and accomplishments combine with IN-, but not with FOR-adverbials, as the examples in (49) and (50) illustrate:

- (49) a. *He won the race for half an hour. (Achievement)
b. *The bomb exploded for half an hour. (Achievement)
c. *He ran a mile for half an hour. (Accomplishment)
d. *He drew a circle for two minutes. (Accomplishment)
- (50) a. He won the race in half an hour.
b. The bomb exploded in half an hour
c. He ran the mile in half an hour
d. He drew a circle in two minutes

In this respect, achievements and accomplishments differ from the other two predicate types: as we have seen, states and activities occur with FOR-, but not with IN-adverbials (cf. the examples in (2.1)).

Another test discussed by Verkuyl is the so-called conjunction test. Consider the following examples:

- (51) a. The VAX printed a paper on Saturday and Sunday.
(Accomplishment)
b. The postman delivered a parcel on Saturday
and Sunday. (Achievement)
c. The VAX ran on Saturday and on Sunday. (Activity)
d. The postman was unhappy on Saturday and on Sunday.
(State)

(51a) implies that there were two printings: one on Saturday and another one on Sunday, and similarly, (51b) suggest that there were two deliveries. By contrast, it is possible to interpret (51c) as implying that the Vax had been running constantly throughout the weekend, and in the case of (51d) this latter interpretation is indeed the most likely one.

Furthermore, Verkuyl considers the punctual nature of achievements, discussing a case based on modern technology, which is supposed to raise some intriguing problems with respect to Vendler's classification of verbs. Verkuyl argues that in Vendler's system, *type the letter 'p'* would be classified as an achievement, while

¹⁴Verkuyl argues that Vendler (1967) does not distinguish between criteria based on factors such as agentivity and criteria based on purely temporal properties of situations, such as boundedness. This is why achievements and states appear to behave similarly.

type the business letter would be an accomplishment. Thus, Vendler would argue that when we say that it took someone five minutes to type the letter 'p', we do not mean that the "typing" of the letter 'p' went on during those minutes, whereas when we say that it took someone five minutes to type the business letter, we could mean just that. Another difference between the two predicate types is that only achievements can combine with definite time adverbials, as is illustrated by (52):

- (52) a. At what time did you type the letter 'p' ?
At noon sharp.
- b. At what time did you type the business letter?
*At noon sharp.

However, Verkuyl claims that in modern technology the reverse argument is also possible. First, the typing of the letter 'p' on the screen of a word processor may take a while due to some *Please Wait* command so that it takes time before the 'p' has become visible. Second, the typing of a business letter may take just a moment; if it is a standard letter, it can be produced by hitting one single key. Hence, Verkuyl argues that both *type a letter 'p'* and *type a business letter* are members of one and the same category and whether or not they are interpreted as referring to a punctual or a durative event depends on the context in which they occur.

3.3.4. Conclusion

Verkuyl is right in criticising Vendler's criteria for distinguishing situation types; thus, it seems reasonable to argue that states and achievements do not form a natural class, while achievements and accomplishments do. However, there are some problems with Verkuyl's analysis. First of all, Verkuyl fails to distinguish different types of punctual predicate. As we saw in 3.3.2, there are at least two subclasses, points and culminations, and it seems that Verkuyl's criticisms apply mainly to the latter.

Secondly, though in some respects achievements and accomplishments do form a natural class, there are also clear differences between them. The main difference is that accomplishments, unlike achievements, are assumed to consist of *successive phases*. Thus, the event described in an (atomic) achievement sentence is viewed as lacking *internal structure*: it cannot be divided into subcomponents, and the object NP has to be interpreted as referring to a single whole. By contrast, in accomplishment sentences the object NP is **dispersive** and **cumulative**; in other words, the NP denotes a divisible entity, or a set of entities, and further, an increasing (decreasing) number of the entities making up the set get involved in the dynamic process referred to by the sentence.

The terms 'dispersive' and 'cumulative' have been introduced by Declerck (1979). From the point of view of the present discussion, the most important type is the **internally-dispersive, cumulative NP**.¹⁵ Consider the following sentences:

- (53) a. John ate the cheese.
b. John walked through the tunnel (for hours).
c. John was drawing a circle.

Cheese, the tunnel, and a circle refer to a set of entities (particles of cheese, portions of the tunnel or fragments of the circle), but they do not have a plural meaning. Declerck points out that in order to be represented as internally dispersive it is necessary that the NP in question should refer to an object that is perceived as having a certain extension (length, breadth, volume, or depth).

Now it seems to me that some verbs, because of their inherent meaning, only occur with dispersive NPs (e.g. *draw, make* and *write* in (54)), while others can occur with both dispersive and nondispersive ones (e.g. *cross*, which occurs with a nondispersive NP in (55a) and with a dispersive one in (55b)):

- (54) a. Bob drew a line.
b. Bob made a table.
c. Bob wrote a letter.
- (55) a. Bill crossed the threshold.
b. Bill crossed the forest.

The notions of 'dispersiveness' and 'cumulativeness' are also applicable to sentences which involve a prepositional object denoting a goal (or a source). Punctual sentences, unlike durative ones, are interpreted as denoting situations where there is no intermediate space between the source and the goal. Thus, the sentences in (56a) refer to punctual situations, and those in (56b) to durative situations:

- (56) a. He arrived at the station/crossed the finishing line.
b. He walked to the station/crossed the forest.

Another way of describing the difference between the two types of sentence is to say that punctual sentences, such as those in (56a), refer to **border-crossings**, while durative ones (e.g. (56b)) denote **extended journeys**, and involve the notion of 'path' connecting the source and the goal (cf. Jessen, 1975).

¹⁵In

All afternoon, John handed a Labour Party badge to passersby.
Labour Party badge and *passersby* are *externally* dispersive because of their plural meaning, i.e. because they refer to a set of badges and a set of passersby, respectively. I shall not be concerned with these kinds of NPs here.

Of course, the punctual-durative distinction is in many instances pragmatically determined. For instance, *The ant crossed the threshold* can be said to describe an extended journey, while *The giant crossed the road* may refer to a border-crossing. However, the crucial factor here is not the *duration* of the event being referred to, but its *internal structure*, and how it is perceived by a human language processor. Thus, it is assumed that the ant has to take several steps to complete the journey from the source to the goal, while the giant has to take just one step to reach the goal.

Let's now return to Verkuyl's example regarding *type*, which in my opinion is totally misconstrued. It seems clear to me that *type* in *typing the letter 'p'* is a hyponym of e.g. *press*, hence denotes a punctual event. It makes no difference how long it takes for the letter to appear on the screen; it is the hitting of the key that constitutes the event, not the waiting period. By contrast, *type a business letter* refers to a prototypically durative event, consisting of a beginning, middle and end; if a letter is produced by pressing a key, it is not "typed". To put it differently, the NP *the letter 'p'* refers to a indivisible whole; hence is nondispersive, while the NP *a business letter* is dispersive, and cumulative, because it refers to an object that can be divided into subparts, and an increasing number of these subparts (page 1, 2, etc.) gets involved as the process of writing proceeds.

It is true that although the punctual-durative distinction is very clear notionally, there are not many grammatical correlates with this semantic distinction in English. For instance, both punctual and durative predicates can occur in the progressive form, so we cannot say that the use of this particular grammatical form is lexically conditioned.

Similarly, it has been suggested that the IN-adverbial does not really provide an adequate test for distinguishing between punctual and durative predicates as it is tied up with agentivity. As we have seen, Moens and Steedman (1988) claim that the preparatory phase must be associated with a *voluntary* act; hence the unacceptability of the sentences in (57):

- (57) a. *John noticed the error in two minutes.
b. *John recognised the man in a few seconds.
c. *The bomb exploded in half an hour.

In fact, both Dowty (1979) and Verkuyl (1989) accept the sentences in (57) as well-formed. However, as Verkuyl points out, *in* has two different meanings: (1) it can refer to the duration of the whole event, or (2) it can refer to the interval between the time of utterance and the beginning of the event. However, the relevant factor here is *not* agentivity, but telicity: telic sentences contain an IN-adverbial with meaning (1), and atelic sentences an IN-adverbial with meaning

(2).¹⁶

Consider the following examples:

- (58) a. John wrote the letter/cooked the dinner
in two hours.
b. The ice melted in half an hour.
c. The men reached the top in two days.
d. The machine printed the paper in 5 minutes.
e. He died in two months.
- (59) a. He recognised /noticed the girl in half a second.
b. He ran in half an hour.
c. John winked in a couple of minutes.

The sentences in (58) describe goal-orientated activities, while those in (59) describe activities which are not associated with a goal, (a) denoting a transition; (b) the beginning of a process, and (c) a point. Thus, at the very least we can say that the IN-adverbial provides a criterion for distinguishing between culminations and other types of punctual predicate.

Moreover, as was mentioned in the Introduction, the *X spent Y time Ving*-test seems to provide a criterion for distinguishing culminated processes and culminations. Consider again the examples in (4.2), repeated here:

- (4.2.) a. John spent all day drawing/writing/cooking.
b.*John spent all day reaching the top/
winning the race/arriving in London.

It can be argued that this criterion, too, is based on agentivity, but since agentivity is one of the factors distinguishing between culminated processes and culminations, the test seems valid.

Despite all these complications, I assume, together with Nakhimovsky (1988), and Moens and Steedman (1988), that (1) it is possible to distinguish punctual and

¹⁶In many languages, different pre-/postpositions or cases are used for IN(1) and IN(2); for instance, in French *en* expresses the former meaning, and *dans* the latter. Consider, too, the following Finnish sentences:

- a. Marja kirjoitti kirjeen tunnissa.
Marja wrote letter hour (INESS)
'Marja wrote the letter in an hour.'
- b. Marja saavutti huipun tunnissa.
Marja reached top hour (INESS)
'Marja reached the top in an hour.'
- c. *Matti huomasi koiran *sekunnissa/sekunnin päästä.
Matti noticed dog second (INESS)/second (GEN) after
'Matti noticed the dog in a second.'
- d. Matti juoksi *tunnissa/tunnin päästä.
Matti ran hour (INESS)/hour (GEN) after
'Matti ran in an hour.'

durative predicates, and (2) this distinction is relevant to the description of the temporal structure of narratives.

First of all, although there are no grammatical criteria for distinguishing between culminations and culminated processes, we can nevertheless say that this distinction is lexicalised in a small number of cases, so e.g. *reach*, *win* and *arrive* denote border-crossings, while *write*, *draw*, *walk*, *cook*, *build*, *destroy* etc. are used to form sentences denoting extended journeys. Secondly, as the examples in (58) and (59) illustrate, point and transition expressions behave differently from culminations with respect to durational adverbials. Thirdly, as (4.2) illustrates, the X spent Y time Ving-test distinguishes culminations and culminated processes. Finally, given the relevance of the notions of 'dispersiveness' and 'cumulativity', the punctual-durative distinction accounts for the different analyses assigned to the sentences *The ant crossed the road* and *The giant crossed the road*: only the former is associated with an event structure consisting of a beginning, middle and end.

Of course, we can still refer to the preparatory and the consequent processes of a punctual event; however, these are not part of the event structure proper, but are pragmatically conditioned. Therefore, unlike Moens and Steedman (1988), I distinguish between the preparatory phase associated with punctual events, and the middle phase of durative events. (I shall return to this issue in Chapter Five.)

3.4. Stative and Dynamic Predicates

3.4.1. Introduction

In this section I take a closer look at the stative-dynamic distinction. The following are the most important questions in this connection:

1. How can we divide *predicates* into dynamic and stative, and furthermore, how does this division relate to notions such as motionality, agentivity and intentionality?
2. What is the nature and relevance of the distinction between contingent and noncontingent states?

As for the first question, following Nakhimovsky (1988), I assume an ontologically based classification, which is also linguistically motivated. In particular, I propose a broad notion of dynamicity, suggesting that the difference between dynamic and stative situations is one of *energy*: the former are perceived as requiring some form

of energy, and the latter no energy. Moreover, I propose that dynamicity is the highest principle, encompassing motionality, agentivity and volitionality.

As for the second question, states are generally defined as situations which do not change through time, which are stable and therefore do not indicate the beginning and the end of the situation. However, this definition applies only to *noncontingent* states; a different definition is required for *contingent* states. I suggest then that contingent states differ from noncontingent ones in that they refer to a situation which has began and is assumed to end at an undefined point; hence they are time-restricted. I also argue that contingent states are especially interesting from the point of view of the spatio-temporal structure of narratives.

3.4.2. *Ontological and Linguistic Classifications*

As we saw in Chapter One, according to Interval Semanticists (e.g. Dowty, 1979, and Taylor, 1977), states and activities are similar in that they refer to homogeneous situations: they are true for every subinterval of the interval I for which they are true. However, only states are *strictly* homogeneous: if Mary is ill on Monday and Tuesday then *Mary be ill* it is true for every subinterval of that time interval. By contrast, if Mary walks from 2 to 4, then it does not necessarily follow that *Mary walk* is true for every single subinterval between 2 and 4 (for instance, she may stop at traffic lights, etc.).

Linguists have found the Dowty-Taylor model unsatisfactory: it has been claimed that the subinterval criteria cannot possibly capture the real distinctions made in human language. Hence, different types of criteria have been proposed; specifically, state and process (which is the currently popular term for Vendler's activities) predicates have been distinguished on the basis of two types of criteria: *ontologically* motivated (e.g. Nakhimovsky, 1988), and *linguistically* motivated (e.g. Caenepeel, 1989).

The first type of classification, proposed e.g. by Nakhimovsky (1988), is based on the *ontology* of events. His main claim is that predicates should be classified not on a truth conditional basis, but on the basis of the kinds of resources they are *perceived* as consuming. In other words, the aspectual distinctions relate to something perceived and experienced, rather than truth values. Specifically, Nakhimovsky claims that we should classify predicates according to their internal dynamics (including *volitional* control), the stability of their parameters and the resources they consume.

In Nakhimovsky's system, the main division among predicates is between *states*

and *processes*. We can then note the distinction between states that do not require any resources to sustain themselves (knowing English, owning a house) and those which require generic resources, e.g. metabolic processes, including states like sleeping and standing. Thus, Nakhimovsky claims that the strict subinterval property holds only for zero-resource states.

As for processes, some of them consume general resources (e.g. walking), while others require process-specific resources (e.g. reading). Another major division among processes is between telic (those requiring a limited amount of a process-specific resource), and atelic (those requiring an unspecified amount of such a resource). Furthermore, Nakhimovsky argues that a comparison of the preparatory and the resulting stages of a telic process shows the possible changes that such processes bring about: a telic process can create an object ('write a book'); destroy an object ('kill a spider'); modify an object ('alter the plan'), or move a specified amount of material (including the mover himself) to a specified destination ('walk to the station').

Nakhimovsky then offers the following classification of predicates.

(60)

1. STATES:

- a. Zero-Resource States: know, possess, resemble, verbs of perception
- b. Generic Resource States: sit, lean, stand, sleep

2. PROCESSES:

- a. Atelic:
 - i. Generic Resource Processes: walk, work
 - ii. Specific Resource Processes: read, dig
- b. Telic: read a book, dig a hole

The second type of classification of predicates is represented by Caenepeel (1989), who distinguishes three kinds of categories in this connection:

- (61)
- 1. Nonrestrictive states (know, love, be a man, be short)
 - 2. Restrictive states (be happy/aggressive/ in London)
 - 3. Processes (enjoy, wear, look, work, play, shiver)

The difference between (1) and (2) is that the former, being "intrinsic to the world" are more difficult to coerce into culminations; hence are not likely to occur with the perfect, which require a culmination as their input. This is why (62a) is odd (*be*

short denotes a nonrestrictive state), while (62b) is perfectly acceptable (*be happy* is an example of a restrictive state, which can be culminated):

- (62) a. #He has been short.¹⁷
b. He has been happy.

As for the difference between (2) and (3), Caenepeel claims that rather than having to make ontologically based distinctions, the progressive can be used as a *linguistic* diagnostic test for distinguishing states and processes. The simple rule is: if a proposition can be unproblematically combined with the progressive form without any change to the meaning of the predicate, then it is a process. So according to Caenepeel, *be* cannot describe a process since in expressions such as *He is being aggressive*, it can no longer be associated with its "normal" (stative) meaning. By contrast, e.g. *look* and *enjoy* represent processes as they can be combined with the progressive with no change to their meaning (cf. *John was looking pensive* and *John was enjoying his lunch*).

3.4.3. Tests for Stativity

Two questions arise here: First, to what extent do the progressive and the other linguistic tests mentioned in the Introduction provide adequate criteria for distinguishing states and processes at the *lexical* level, and second, how do the tests relate to the ontologically based distinctions suggested by e.g. Nakhimovsky (1988)?

At first sight, Caenepeel's (Caenepeel, 1989) progressive rule seems by and large satisfactory. Consider the following in this respect:

- (63) a. *John is knowing the answer.
b. *The box is containing all my books.
c. *Mary is owning a huge house.
- (64) a. *John is loving Mary.
b. John is loving every minute of the holiday.
- (65) a. *John is having a house.
b. John is having some problems at the moment.

Know, *contain* and *own* are prototypical state predicates; hence, unacceptable in the progressive form. The same analysis applies to *love* in (64a) and *have* in (65a). The latter two predicates can occur in the progressive if they are used to refer to a dynamic situation, as in (64b) and (65b). However, as Caenepeel points out, in this

¹⁷In certain contexts, a sentence involving a nonrestrictive state can refer to a situation that has come to an end; in these cases the nonrestrictive state is acceptable with the perfect. (e.g. *He had been short before his operation*).

latter case the two predicates have acquired a different meaning, so (64b) corresponds to 'John was enjoying every minute of the holiday', and (65b) to 'John was experiencing some problems'.

Contrast now (63-65) with (66):

- (66) a. John wears/is wearing a tie.
b. John lives/is living in Paris.
c. John enjoys his lunch/is enjoying his lunch.

It seems that *wear*, *live* and *enjoy* can all occur in the progressive without any change to its basic meaning; hence, should perhaps be classified as process predicates.

What is then the difference in the meaning between simple and progressive sentences in cases like (66)? According to Comrie (1976), the progressive is used to refer to a *dynamic* situation, i.e. a situation which requires a fresh input of energy to continue, while the simple form is used to refer to a *nondynamic* situation. So in (66) the simple form expresses a habitual/permanent state while the progressive form expresses a more temporary/nonhabitual state.¹⁸ Comrie claims then that when a prototypically stative predicate occurs in the progressive, the sentence is given a dynamic interpretation. Consider, for example, the following:

- (67) a. John is stupid/is being stupid.
b. John is a pain/is being a pain.

The simple form in each case refers to a permanent quality associated with John; hence the simple sentence is stative, while the progressive refers to the way in which John is behaving at the moment; hence the progressive sentence is dynamic.

Another way of describing the dynamic and nondynamic distinction is to use the terms **contingent** and **noncontingent**, which correspond to Caenepeel's restrictive and nonrestrictive categories. The difference between *John is stupid* and *John is being stupid* is then that the former refers to a noncontingent, and the latter to a contingent state. However, as Comrie points out, this contingent-noncontingent distinction is only partially realised in English. For one thing, not all stative verbs can occur in the progressive even when they refer to a contingent state, so, for example, we cannot have **I am knowing more about quantum mechanics with each day that passes*, or **I was knowing the answer when he arrived*. Indeed, there seems to be a small number of inherently stative predicates (e.g. *know*, *own*,

¹⁸As Comrie (1976) points out, another dynamic use of the progressive is to refer to the degree to which a state is being acquired. This is illustrated by the following:

- a. John is understanding more about quantum mechanics as each day goes by.
b. John is resembling his mother more and more every day.

contain and *be* with a locative complement)). Thus, we can say that all progressive sentences refer to contingent states, while simple sentences are unmarked in this respect.

According to Comrie, the fact that some stative predicates cannot occur in the progressive constitutes an accidental gap in the system, and does not bear upon the inherent meaning of the predicates. Dowty (1979), however, offers a different explanation for this phenomenon, claiming that the crucial factor here is *controllability*. Consider the following:

- (68) a. John is being a fool.
b. John is being aggressive.
c. John is being obnoxious.
- (69) a.*John is being in London.
b.*John is knowing the answer.
c.*John is being 6 foot tall.

According to Dowty, the adjectives and nominals in (68) represent "agentive states" or "activities", while those in (69) are clearly nonagentive. Furthermore, only the predicates in (68) can occur in the progressive, because they, unlike the predicates in (69), refer to controllable situations. It should be noted that controllability cannot be equated with intentionality; for instance, (68a) and (68b) do not entail that John is intending to be aggressive or a fool, "but they nevertheless entail that some property *under his control* qualifies him as obnoxious or a fool" (Dowty, 1979:118). By contrast, as Dowty points out, one cannot be in a place, or be six foot tall, etc. simply by deciding that is what one wants to do.

The Imperative and Pseudo-cleft constructions also seem to test controllability. Consider, for example, the following sentences:

- (70) a. Wear a skirt!
b. Look happy!
c. Be aggressive!
- (71) a.#Be six feet tall!
b.#Know the answer!
c.#Be in London!
d.#Be pale!
- (72) a. What he did was wear a red dress.
b. What she did was be aggressive.
c. What she did was look happy.
- (73) a.#What he did was be in London/pale.
b.#What he did was be 6 foot tall.
c.#What the machine did was be noisy.

The sentences in (70) and (72) are perfectly acceptable if interpreted as referring to a controllable situation; by contrast, those in (71) and (73) are unacceptable as

such an interpretation seems impossible.¹⁹

There are exceptions to this controllability principle; it seems to apply to adjectives and nominals, while verbs behave differently. Consider, for instance, the following:

- (74) a. The machine is making a noise/
What the machine did was make a noise.
b. Mary is shivering/What Mary did was shiver.
- (75) a. #The machine is being noisy.
b. #Mary is being cold.

What Dowty suggests is that in cases like (74) motionalty overrides controllability: the sentences in (74) express internal movement that has visual, audible or tactile consequences, while those in (75) are clearly stative. However, according to Dowty, motionalty and controllability are two independent criteria accounting for the acceptability of the progressive form. In particular, Dowty does not suggest that motionalty might be the highest principle, encompassing controllability. This is because he is unwilling to postulate a "mental" movement or change to account for sentences like *Mary was ignoring John* and *John was refraining from saying anything*, which seem to qualify as activities only because they involve a controllable decision *not* to act.

There are also progressive sentences referring to situations which are neither motional nor controllable:

- (76) a. Mary was sleeping upstairs.
b. The book was lying on the table.

According to Dowty, although these verbs do not entail change in the way *run* and *make noise* do, their truth conditions involve an interval, which is why they are in a sense dynamic. In this respect, the predicates in (76) differ from such locative predicates as *be in London* and *be asleep*, which refer to a single moment in time. Dowty offers then the following classification of stative predicates:

¹⁹I am using #, instead of *, in these examples to indicate that strictly speaking, the sentences are pragmatically unacceptable, rather than ungrammatical.

- (77) 1. NON-AGENTIVE
- a. Momentary:
 - i. Contingent: be asleep/in the garden
 - ii. Noncontingent: love, know
 - b. Interval Statives: lie, stand, sit, sleep
2. AGENTIVE:
- a. be polite, be a hero
 - b. Interval Statives: (with human subject):
sit, stand, lie

3.4.4. Conclusion

Like Nakhimovsky, I do not wish to adopt a truth-conditional approach to lexical semantics; however, in my view some of the semantic distinctions and principles proposed by Dowty (1979) are useful. First of all, the principle of controllability seems to account for the behaviour of the various adjectivals and nominals; thus, it seems reasonable to suggest adjectives like *aggressive*, *polite* and *difficult* can be dynamic if referring to a controllable situation. Similarly, I would like to classify *stand*, *lie*, *sit*, etc. as dynamic predicates, even when they occur with a nonagentive subject. Thus, Caenepeel (1989) is wrong in regarding *be* as a stative predicate: following e.g. Lyons (1968), I assume that the copula *be* is a grammatical element, devoid of meaning, which serves to carry the markers of tense and aspect; it is the nature of the complement that determines whether the expression is stative or dynamic.

Unlike Dowty, however, I assume that we can talk about 'mental movement'; hence, that controllability is subsumed by motionality, or rather, dynamicity since, as we shall see shortly, motionality and dynamicity turn out to be two distinct notions. I propose then the following hierarchy of principles determining the behaviour of sentences involving different predicate types:

(78)

	Dynamic	Nondynamic
Controllable	Noncontrollable	
Volitional	Nonvolitional	

In other words, Dynamicity encompasses Controllability in the sense that a sentence can be dynamic but refer to an uncontrollable situation. (cf. e.g (74), and Controllability encompasses Volitionality, so e.g. *John was being stupid* can refer to a controllable, but unintentional activity.

As for the linguistic tests, the Progressive seems to test Dynamicity:

- (79) a. The engine was running smoothly.
b. The book was lying on the table.
c. Mary was being aggressive.
- (80) a.#The engine was being noisy.
b.#The book was being on the table.
c.#Mary was being pale.

The assumption here is that the situations described by the sentences in (79) are dynamic, though not necessarily controllable, while those in (80) are not only noncontrollable, but also nondynamic.

The Imperative in turn tests Volitionality, as is illustrated by the following:

- (81) a.#Run smoothly, engine!
b.#Lie on the table, book!
c.#Be pale, Mary!
- (82) a. Be aggressive, Mary!
b. Stand in the corner, John!
c. Look happy, Kevin!

In other words, the sentences in (82) are assumed to refer not only to a controllable, but also to a volitional situation, while those in (81) cannot be given such an interpretation.

The Pseudo-cleft test is less straight-forward: with process predicates it seems to test Dynamicity, as in (83), whereas with Dowty's Interval and Agentive States it tests Controllability, as is exemplified by (84):

- (83) a. What the engine did was make a lot of noise.
b. What Mary did was shiver.
- (84) a. What John did was stand in the corner.
b. What Mary did was look happy.
c. What Mary did was be aggressive.
d.#What Mary did was sleep 10 hours.
e.#What the book did was lie on the table.
f.#What John did was be hungry.

What I suggest then is that we have to distinguish two kinds of dynamic predicates: motional and nonmotional. The former, unlike the latter, involve some sort of motion, be it concrete or abstract: for instance, "internal movement" that has "audible consequences" in the case of (83a), or "visual (or tactile) consequences" in the case of (83b), as Dowty (1979:165) would put it. They can occur in the Pseudocleft-construction even when referring to a noncontrollable situation. By contrast, nonmotional dynamic predicates, as well as agentive contingent states, can only occur in the Pseudocleft if they can be interpreted as referring to a controllable situation, as in (84a-c). Furthermore, since Motional dynamic predicates encompass

Controllability, the nonmotional dynamic predicates in (84a) and (84b), and the contingent state in (84c) are re-interpreted as denoting a motional situation; in other words, they denote 'mental movement' (a decision to act in a certain way). By contrast, the sentences in (84d-f) cannot be interpreted as referring to a controllable situation, which is why they are pragmatically odd.

The following method can be used to distinguish between motional and nonmotional categories: If a sentence containing a dynamic predicate has (more or less) the same meaning in the simple past and in the progressive, it is a nonmotional sentence; if not, it is motional. Consider the following examples in this respect²⁰:

- (85) a. The machine made a funny noise/was making a funny noise when I entered the room.
b. John ran/was running when I entered the room.
c. John screamed/was screaming when Mary arrived.
- (86) a. Mary wore/was wearing a black dress when I saw her.
b. John entered the kitchen. He looked/was looking harassed.
c. I entered the room. The girls sat/were sitting on the floor by the window.

The sentences in (85) are assumed to contain a *motional* dynamic predicate: in each case the simple past sentence has clearly an inchoative meaning, while the corresponding progressive sentence refers to a contingent state. By contrast, in the sentences in (86), which contain a *nonmotional* dynamic predicate, both forms can refer to a contingent state; in fact, there is not much difference in the meaning between the two sentence types. However, as we shall see in subsequent chapters, although describing contingent states, the predicates in (86) retain their dynamic quality.

The following then represents a modified hierarchy of principles determining the use of the Progressive, Pseudocleft and Imperative constructions:

²⁰In the previous section, most of the examples were in the present tense, and, as we have seen, the difference between the simple present and the progressive can be attributed to contingency (i.e. habituality). However, this is not necessarily the case in the past tense.

(78')

	Dynamic	Nondynamic
Motional	Nonmotional	
Controllable	Noncontrollable	
Volitional	Nonvolitional	

To sum up, the Progressive tests Dynamicity; the Imperative Volitionality; and the Pseudo-cleft Motional, plus Controllability in the case of dynamic nonmotional predicates.

It seems then that apart from the agentive states ('be aggressive', etc.), Caenepeel's (1989) linguistically motivated classification is confirmed by the data if we assume that her Progressive test distinguishes stative and dynamic situations (Caenepeel's states and processes). However, Caenepeel fails to elaborate on the nature of dynamic and stative predicates/situations; what is more, she fails to distinguish two types of dynamic predicate (motional and nonmotional).

The tests also seem to confirm the relevance of Nakhimovsky's ontologically motivated classification, if we assume that the line between stative and dynamic predicates is drawn between Zero-Resource and Generic Resource predicates, and further, that Generic Resource States are dynamic, though not motional, in the way Generic Resource Processes are.

One problem with Nakhimovsky's classification is, however, that he seems to base the distinction between Generic Resource States (*lie, stand, sleep*), and Generic Resource Processes (*work, walk, laugh*) on notions such as agentivity and volitionality. However, as we have seen, dynamicity does not correlate with such notions: dynamic sentences (including motional ones) can be noncontrollable, nonagentive, and nonvolitional.

Another problem with Nakhimovsky's system is that he classifies all verbs of perception as Zero-Resource states, presumably because he assumes that they refer to nonvolitional activity. However, verbs such as *see* and *hear* are clearly *motional*, hence *dynamic*, as has been pointed out by Gruber (1967). One argument for this analysis is that verbs of perception occur with the same prepositions as the verbs of motion. This is illustrated by the examples in (87):

- (87) a. The bird flew/saw into the nest.
b. The bird flew/saw behind the bushes.

Thus, since I accept the concept of 'mental movement', I claim that 'motionality' can refer to perception, as well as to other mental states. (I shall return to this issue in Chapters Six and Seven).

It is once again important to emphasise that we are talking about the perception and linguistic representation of physical reality, and not the actual reality. We can then say that dynamic predicates refer to a situation which is somehow perceived as requiring 'energy'. However, unlike Nakhimovsky (1988), I do not assume that a dynamic sentence describes e.g. "periodic metabolic processes", or other purely physical processes, but that it refers to some linguistically relevant abstract property, e.g. a form of *behaviour*, or a *manner* of being, as opposed to neutral existence. For instance, *be in the corner*, which represents a contingent state, denotes neutral existence, while *stand in the corner*, is a dynamic predicate, denoting the manner of existence.

By contrast, stative predicates denote situations which are perceived as *not* requiring any energy. Furthermore, they can be divided into predicates which are time-restricted (contingent) and those which are independent of time (noncontingent).

The difference between motional and nonmotional can in turn be attributed to the notion of *phase*: Motion predicates consist of successive phases, (or one phase in the case of border-crossings), while nonmotion predicates describe a stable (unitary) process. (This will also be discussed in more detail in Chapter Six).

To sum up, predicates can be classified as follows²¹:

(88)

1. DYNAMIC:

a. Motional: work, run, make a noise, walk, laugh,
shiver, cough, play, reach, win

b. Nonmotional: wear, look (nice), sit, stand, rest, sleep

2. NONDYNAMIC (STATIVE):

a. Contingent: be pale/in London/hungry/aggressive/a hero

b. Noncontingent: know, contain, possess, have, love,
understand, resemble, weigh, be 6 ft tall,
be a man

Two points should be noted regarding the classification in (88). First, we have to distinguish motional *predicates* from motional *sentences*, i.e. sentences which are used to move the narrative. Thus, motional predicates can (paradoxically) occur in stative sentences; in fact, progressive sentences involving a motional predicate, behave like statives, and, in particular, like locatives.

²¹Miller (1970) has also distinguished three types of predicate: his stative verbs correspond to our stative ones; his static to our dynamic-nonmotional, and his active to our motional verbs.

For instance, Vlach (1981) points out that both (89a), which is stative, and (89b), which is progressive, indicate that Max was in the location or process specified by the predicate for some period preceding and extending up to the time of my arrival, while in (89c) and (89d), denoting an activity and an accomplishment, respectively, the implication is that the main clause event occurred just after, or simultaneously with, the *when*-clause event.

- (89) a. Max was in the kitchen when I arrived.
b. Max was running when I arrived.
c. Max ran when I arrived.
d. Max polished his shoes when I arrived.

The same thing applies to sentences containing a definite time adverbial; thus, 3 *pm* in (90a) picks out a single point in the process/state described, while the sentences in (90b) can only have an inchoative meaning:

- (90) a. Max was here/running at 3 pm.
b. Max ran/polished his shoes at 3pm.

Vlach (1981) also points out that one of the historical antecedents of the progressive is a construction involving a *locative* preposition, as in *John was at/a-hunting*, and locatives are statives *par excellence*. Furthermore, it has been shown e.g. by Anderson (1973) that the progressive in a number of unrelated languages has syntactic features common with locatives. Following Anderson (1973) and Miller (1972), Comrie (1976:103) has suggested the following explanation for the relation between locative and progressive constructions: progressive sentences view the situation as if it were *spatial*, and then refer to some specific point of the situation as "being 'in' that situation." (I shall return to these sorts of locative construction in Chapter Four).

Second, (88) lists *prototypical* dynamic and stative, and contingent and noncontingent predicates. As we have seen, it is often possible to re-interpret a stative category as a dynamic one, or a nonmotional category as a motional one (e.g. *lie* and *stand* are motional if referring to a controllable situation). Similarly, it is possible to interpret a noncontingent category as a contingent one, and *vice versa*. One way of distinguishing contingent and noncontingent readings is to relate the state in question to a sentence containing a punctual temporal phrase, as in the following:

- (91) a. Mary knew French when we arrived at home at 2.
b. Mary owned a house at 3 pm.
c. Mary was 6 feet tall when I rang her.
d. Mary loved John last night.

The sentences in (91) are only acceptable if the stative sentence can be interpreted as being time-restricted. Furthermore, it is only the contingent states that are of interest from the point of view of the temporal structure of narratives.

3.5. Conclusion

In this chapter we have emphasised the perception and linguistic representation of predicate/situation types. Thus, an ontologically based, though linguistically motivated, classification of predicates is proposed.

Let's now return to the four-way classification of situation types/ basic propositions discussed in 3.1, and repeated here:

- (11) accomplishments: MAX WRITE A LETTER = bounded
achievements: MAX WIN THE RACE = bounded
activities: MAX RUN = unbounded
states: MAX BE ILL = unbounded

We have discussed the claim that the simple past operator does not alter the boundedness value of a basic proposition, making the following specific claims.

First, accomplishment (with the exception of zero-bounded predicates) and achievement expressions are inherently bounded. Hence, the currently popular claim that a simple past sentence is always vague with regard to completion is disputed here.

Second, the punctual-durative (accomplishment-achievement) distinction is claimed to be notionally clear, and also relevant linguistically; thus, 'border-crossings' and 'extended journeys' are distinguished.

Third, the difference between activities and states is claimed to be that the former denote motion, and the latter location. It is argued then that the default value for stative sentences is unbounded, whereas for activities (including zero-bounded predicates) it is bounded (inchoative). It is also argued that autonomy is determined by termination, rather than completion; in other words, a sentence which is *presented* as referring to a terminated situation is considered to be autonomous.

Finally, we have identified a hybrid category, viz. nonmotional dynamic situations, denoted by predicates such as *sit*, *stand* and *sleep*. These behave like contingent states in many respects, but are also dynamic in nature; hence, occur e.g. in the progressive.

We can then divide Basic Propositions into the following *five* categories:

(92)

- | | |
|---------------------------------------|--------------|
| 1. Extended Journeys: | BOUNDED |
| Motion Verb + dispersive object: | |
| MARY WRITE LETTER | |
| 2. Border Crossings: | BOUNDED |
| Motion Verb + nondispersive object: | |
| MARY REACH SUMMIT | |
| 3. Zero-bounded: | ZERO-BOUNDED |
| a. Motion Verb + Zero-bounded object: | |
| MARY READ A BOOK/PLAY A SONATA | |
| b. Motion Verb: MARY RUN/SCREAM | |
| 4. Dynamic Nonmotional: | UNBOUNDED |
| MARY WEAR A HAT/LOOK SAD | |
| 5. Stative: | UNBOUNDED |
| MARY BE ILL/IN LONDON | |

The Progressive, together with the Perfect operator, are discussed further in Chapter Five. Before that, I shall look at aspect in Finnish, with special emphasis on the three semantic distinctions (termination vs. nontermination; punctual vs, durative, and stative vs. dynamic) introduced in this chapter.

Chapter Four

Aspect in Finnish

4.1. Introduction

In this chapter, I take up some of the issues discussed in Chapter Three, using Finnish data to illustrate the semantic distinctions drawn so far. In Section 4.2. I look at the various ways in which perfectivity is grammaticalised or lexicalised in Finnish; in particular, I shall discuss the case marking of the object NP, and various derivational affixes. In Section 4.3. the expression of contingent states is examined, with special emphasis on the Essive and the Iness3 (the inessive case of the third infinitival) constructions.

It is shown that because perfectivity is grammaticalised in Finnish to a great extent, there are few sentence-level ambiguities with respect to termination or completion. Moreover, the punctual-durative distinction turns out to play a crucial role in the formulation of rules for object marking (the accusative-partitive opposition), as well as for the use of the Iness3 construction. Similarly, the rules accounting for the use of the Essive and Instr2 (the instructive case of the second infinitival) make reference to the dynamic-stative distinction introduced in in Chapter Three.

Predicates are divided into three categories: inherently bounded (punctuals); inherently unbounded (states), and neutral. The latter serve as input to all aspect changing operations; specifically, sentences containing a neutral predicate can be bounded (made autonomous) by the accusative case, perfective affixes, or FOR-adverbials. It is further argued that nonautonomous sentences have to denote situations with boundaries. Specifically, *atelic* simple past sentences, predicate nominals in the essive case, and Iness3 constructions have to be related to a phrase specifying a spatial entity. Similarly, predicate adjectivals can only occur in

the essive case when referring to an absolute state, i.e. a state which is perceived as having boundaries.

First of all, a brief introduction to the Finnish case system is in order. The twelve most important cases can be classified as follows:

(1)

The General System

1. Grammatical Cases

- a. Nominative (NOM)
- b. Genitive (GEN)
- c. Accusative (ACC)

2. Local Cases

A. General¹

- a. Essive (ESS)
- b. Partitive (PART)
- c. Translative (TRANS)

B. Interior

- a. Inessive (INESS)
- b. Elative (ELAT)
- c. Illative (ILLAT)

C. Exterior

- a. Adessive (ADESS)
- b. Ablative (ABL)
- c. Allative (ALLAT)

The **accusative** is the case of the direct object when reference is to a specified quantity:²

- (2) a. Poika osti Marjan kirjan.
boy (NOM) bought Marja (GEN) book (ACC)
'The boy bought Marja's book.'
- b. Liisa sai rahan.
Liisa got money (ACC)
'Liisa got the money.'
- c. Mies luki kirjan.
man read book (ACC)
'The man read the/a book.'

¹The three general local cases used to originally have a purely locative function, and they still have some spatio-temporal uses in Modern Finnish.

²I shall give the precise grammatical form of a word in the glosses only when it is directly relevant to the discussion.

The **essive** denotes (among other things) Location (3a); Time (3b) and Temporary situation (3c):

- (3) a. Tyttö oli kotona.
Girl was home (ESS)
'The girl was at home.'
- b. Jussi lähti maanantaina.
Jussi left Monday (ESS)
'Jussi left on Monday.'
- c. Marja oli sairaana.
Marja was ill (ESS)
'Marja was ill.'

The **partitive** denotes e.g. Source (4a), and partial object (4b and c):

- (4) a. Jussi tuli kotoa.
Jussi came home (PART)
'Jussi came from home.'
- b. Jussi sai rahaa.
Jussi got money (PART)
'Jussi got (some) money.'
- c. Luin kirjaa.
I read book (PART)
'I was reading a/the book.'

The **translative** expresses, among other things, State into which something is transformed (5a), and Duration of a situation (5b):

- (5) a. Jussi tuli vihaiseksi.
Jussi came angry (TRANSL)
'Jussi became angry.'
- b. Jussi meni Lontooseen viikoksi.
Jussi went London (ILLAT) week (TRANSL)
'Jussi went to London for a week.'

The **inessive** expresses Location inside an object (6a), and Duration of an event (6b):

- (6) a. Kirja on laatikossa.
book is box (INESS)
'The book is in the box.'
- b. Marja luki kirjan tunnissa.
Marja read book (ACC) hour (INESS)
'Marja read the book in an hour.'

The **elative** denotes mainly Source (7), and the **illative** Goal (8):

- (7) Marja otti kirjan laatikosta.
 Marja took book box (ELAT)
 'Marja took the book out of the box.'
- (8) Marja pani kirjan laatikkoon.
 Marja put book box (ILLAT)
 'Marja put the book into the box.'

As for the the Exterior Cases, the **adessive** expresses Location (9a), Possession (9b), Time (9c), Instrument (9d) and Manner (9e):

- (9) a. Kirja oli pöydällä.
 book was table (ADESS)
 'The book was on the table.'
- b. Marjalla oli kirja.
 Marja (ADESS) was book
 'Marja had a book.'
- c. Me menimme ulos illalla.
 we went out night (ADESS)
 'We went out at night.'
- d. Marja tappoi Jussin kirveellä.
 Marja killed Jussi (ACC) axe (ADESS)
 'Marja killed Jussi with an axe.'
- e. Marja puhui kovalla äänellä.
 Marja spoke loud sound (ADESS)
 'Marja spoke in a loud voice.'

Finally, the **ablative** denotes Source (10a) and Time (10b), and the **allative** denotes Goal (11a), including Possession (11b):

- (10) a. Jussi otti kirjan Marjalta.
 Jussi took letter (ACC) Marja (ABL)
 'Jussi took the letter from Marja.'
- b. Jussi lähti kahdeksalta.
 Jussi left eight (ABL)
 'Jussi left at eight.'
- (11) a. Jussi meni asemalle.
 Jussi went station (ALLAT)
 'Jussi went to the station.'
- b. Jussi antoi kirjan Marjalle.
 Jussi gave book Marja (ALLAT)
 'Jussi gave the book to Marja.'

In addition, a number of nominal constructions, which in traditional grammars are termed 'infinitives', are discussed here: for instance the Inessive case of the Second Infinitive (INESS2), which denotes an action that is simultaneous with another action (12a), and the Instructive case (INSTR2) of the same construction, which denotes the manner of an action (12b):

- (12) a. Marja kirkaisi huomattessaan käärmeen
 Marja screamed notice (INESS2) snake.
 'Marja screamed when she noticed the snake.'
- b. Lapsi tuli itkien kotiin.
 child came cry (INSTR2) home (ILLAT)
 'The child came home crying.'

Second, I discuss three forms of the Third Infinitive: the inessive case (INESS3) which expresses action in progress (13a); the elative case (ELAT3), which expresses departure from an action, i.e. Source, as in (13b), and the illative case (ILLAT3), which expresses an action to be accomplished, i.e. Goal, as in (13c):

- (13) a. Marja on syömässä.
 Marja is eat (INESS3)
 'Marja is eating.'
- b. Tulen syömästä.
 I come eat (ELAT3)
 'I have just eaten'
- c. Me rupeamme rakentamaan taloa.
 we start build (ILLAT3) house (PART)
 'We start building a house.'

Finally, I discuss the Fifth Infinitive form (INF5), which consists of the punctuality marker ai, the adessive marker lla, and the possessive suffix, and is used to express Prospective aspect:

- (14) Mies oli hukkumaisillaan.
 man was drown (INF5)
 'The man was on the point of drowning.'

4.2. Perfectivity in Finnish

4.2.1 The Partitive-Accusative Opposition

With telic durative predicates, it is the case marking of the object NP that determines the aspectual perspective of a Finnish sentence: the object is put in the partitive case to indicate that it is only partially affected by the action described by the main verb, hence, the sentence is imperfective, while the accusative case is used to indicate that the whole of the object is affected; thus, the sentence is perfective in aspect. Thus, (15a) translates as 'Marja was writing a letter' and (15b) as 'Marja wrote a letter':

- (15) a. Marja kirjoitti kirjettä.
Marja wrote letter (PART)
- b. Marja kirjoitti kirjeen.
Marja wrote letter (ACC)

The rules concerning the case marking of the object in Finnish are extremely complicated. For instance, one would expect atelic predicates to always take a partitive object, as in the following sentences:

- (16) a. Juhani katsoi Tv:tä.
Juhani watched TV (PART)
- b. Marja rakasti jäätelöä.
Marja loved ice cream (PART)
- c. Pekka soitti pianoa.
Pekka played piano (PART)

However, atelic predicates can also occur with an accusative object NP, as (17) illustrates:

- (17) a. Tunnen tämän kaupungin hyvin.
I know this town (ACC) well
- b. Ymmärrän vaikeutesi.
I understand your problem (ACC)

In a different context, the partitive case is more appropriate with the same verbs. Contrast now (17) with (18):

- (18) a. Tunnen tätä kaupunkia.
I know this town (PART)
- b. Marja ymmärtää Juhania.
Marja understands Juhani (PART)

According to Markkanen (1979), in (17a) the accusative case is used since reference is to a thorough knowledge of the town, whereas in (18a) reference is to a partial knowledge. Similarly, she claims that in (18b) the object is in the partitive case since understanding people does not necessarily concern their "total personalities", while understanding a problem concerns the entirety of the problem, which is why the partitive is used in (17b). It seems then that the partitive case in Finnish is not needed for the expression of imperfectivity in the case of atelic predicates since sentences containing these are inherently unbounded; hence, the partitive-accusative opposition is free to be used for other semantic distinctions.³

³Dahl and Karlsson (1976) describe the partitive-accusative opposition in terms of a hierarchical model. Negation is the highest decisive factor (the object in negative sentences is always partitive); next comes the aspectual opposition imperfective-perfective (if the aspect is imperfective, the object is partitive) and finally, if the aspect is perfective, the case marking is determined by the definiteness of the object. However, the examples in (17) constitute an exception to Dahl and Karlsson's rule: these sentences are imperfective, although the object is in the accusative.

Moreover, the partitive case cannot be used to refer to an uncompleted event with punctual predicates since these are inherently perfective (bounded). Consider the following in this respect:

- (19) a. !Otava julkaisi kirjaa.
 Otava published book (PART)
- b. *Pekka antoi kirjaa Marjalle.
 Pekka gave book (PART) Marja (ALLAT)
- c. *Mies saavutti huippua.
 Man reached top (PART)
- d. *Matti voitti kilpailua.
 Matti won competition (PART)
- e. *Pekka osti kirjaa itselleen.
 Pekka bought book (PART) himself (ALLAT)⁴

(Note that in (a) the exclamation mark indicates that the sentence is unacceptable on a nonrepetitive reading). However, in the case of punctual predicates, too, the partitive-accusative opposition can be used to denote other semantic distinctions. Consider, for example, the following:

- (20) a. Minä ammuin karhun.
 I shot bear (ACC)
- b. Minä ammuin karhua (päähän)
 I shot bear (PART) (in the head).
- (21) a. Hän työnsi kirjaa kauemmaksi.
 He pushed book (PART) further
- b. Hän työnsi kirjan kauemmaksi.
 He pushed book (ACC) further

In (20), the case marking of the object determines whether the action expressed by the verb *ampua* ('shoot') is ir/resultative: thus, in (20a) the accusative case indicates that the bear was shot dead, while in (20b) the partitive case indicates an irresultative action, the English translation being 'I shot at the bear'. Similarly, in (21a) the partitive case indicates that the action described by the verb *työntää* ('push') is irresultative, so the English translation for the sentence would be 'He pushed the book further off', while the accusative case in (21b) expresses the corresponding resultative action, the translation being 'He pushed the book away'. The difference is then that in the latter case, unlike in the former, the book is perceived as being removed from the subject's sphere of influence.

⁴Of course, the partitive case is acceptable if the object NP denotes an unspecific quantity, as in the following:

Jussi osti juustoa/maitoa.
 Jussi bought cheese/milk (PART)

However, the above sentence is unambiguously perfective, and is translated as 'Jussi bought (some) cheese/milk'.

It is also important to take into account the interaction of aspect and specificity. Consider the following examples in this respect:

- (22) a. Hiiri söi juustoa.
 Mouse ate cheese (PART)
- b. Hiiri söi juuston.
 Mouse ate cheese (ACC)

If the object NP of a telic predicate is in the accusative case, as in (22b), the sentence is unambiguously perfective. If the object NP is in the partitive, as in (22a), the sentence is ambiguous between the readings 'The mouse was eating cheese', and 'The mouse ate some cheese', i.e. between the imperfective and the perfective readings. However, this ambiguity can only arise with mass nouns; with count nouns, the partitive case always indicates an imperfective aspect, unless occurring with a punctual predicate. Consider the following:

- (23) a. Marja kirjoitti kirjettä (tunnin).
 Marja wrote letter (PART) (hour (ACC))
- b. Marja soitti sonaattia (tunnin).
 Marja played sonata (PART) hour (ACC)
- c. Marja teroitti veistä (tunnin).
 Marja sharpened knife (PART) hour (ACC)
- d. Marja kiillotti hopeamaljaa (tunnin).
 Marja polished silver cup (PART) hour (ACC)
- e. Marja levensi tietä (tunnin).
 Marja widened road (PART) hour (ACC)

The first thing to note is that without the durational adverbial the sentences in (23a) and (23b) are interpreted as referring to an ongoing activity. Thus, the sentence *Marja kirjoitti kirjettä* can never mean that Marja wrote two pages of the letter (and then left the room), but has to be translated as 'Marja was writing a letter'; similarly, *Marja soitti sonaattia*, which contains a zero-bounded predicate denoting linear movement, does not mean that Marja played half of the sonata and then suddenly stopped; rather, it means 'Marja was playing the sonata'. The interpretation of terminated noncompletion is only possible in the case of sentences like (23c), (23d) and (23e), which contain a zero-bounded predicate denoting a *relative* terminal point.⁵ In (23a) and (23b), by contrast, the perfective reading can only be obtained in the presence of a temporal modifier, such as *tunnin*, which provides a temporal boundary for the process in question. It is interesting then to

⁵Zero-bounded predicates involving both a relative and an abstract terminal point behave like those referring to linear movement. Hence

Matti kuivatti patjaa.
 Matti dried mattress (PART)

can only have an imperfective reading.

note that the accusative case can be used to express a bounded reading (perfectivity), whether the NP in question represents a direct object (*Matti kirjoitti kirjeen*, 'Matti wrote a letter'), or a durative temporal adverbial (*Matti kirjoitti tunnin*, 'Matti wrote for an hour'). (See Timberlake (1975) for further discussion).

4.2.2. Derivational Affixes

As we have seen, the English simple past sentences are often ambiguous with respect to perfectivity; specifically, sentences containing a prototypical activity predicate, such as *run*, *scream* and *laugh*, can have either an inchoative (perfective) reading or an incomplete (imperfective) one, depending on context.

Since Finnish grammaticalises the imperfective-perfective distinction to a large extent, it is much less ambiguous in this respect. Finnish has a number of descriptive verbs, and a rich system of derivational affixes which, when added to the verbal stem, increase the number of verbs almost indefinitely (cf. e.g. Hakulinen (1946)). The root verb is always neutral with respect to perfectivity, and the affixes are used to specify the aspect of the root verb. The following are examples of such derivational affixes and their uses:⁶

1. ahta/ahta

This derivational affix indicates that the action described by the main verb is punctual. It is used almost exclusively with intransitive verbs. Examples include the following:

(24)

horjahtaa: 'stumble'	from <i>horjua</i> ('stagger')
yskähtää: 'cough (once)'	from <i>yskia</i> ('cough')
naurahtaa: 'give a laugh'	from <i>nauraa</i> ('laugh')
katsahtaa: 'take a glance'	from <i>katsoa</i> ('look')
huudahtaa: 'cry out'	from <i>huutaa</i> ('shout')
hypähtää: 'jump (once)'	from <i>hypätä</i> ('jump')
vavahtaa: 'to give a shudder'	from <i>vapista</i> ('shiver')

The affix ahta can also be added to stative verbs to denote inchoative situations:

⁶One thing worth mentioning is that the derivative has in many cases acquired additional connotations related either to the manner in which the action is performed or the actor's attitude. For instance *hymähtää* (from *hymyillä* 'smile') could be rendered into English as 'sneer', and *naureskella* signifies more than mere continuous laughter; the appropriate English translation for it might (at least in some contexts) be 'snigger'. (See, too, Pasanen (1978) for further discussion on these sorts of verbs).

(25)

istahtaa:	'sit down'	from <i>istua</i> ('sit')
säikähtää:	'take fright'	from <i>säikkya</i> ('be frightened')
nukahtaa:	'to fall asleep'	from <i>nukkua</i> ('sleep')

2. aise/aise:

When added to a stem denoting a telic situation, this affix expresses a hastily /cursorily performed action:

(26)

tekaista:	'do/make in haste'	from <i>tehdä</i> , ('make')
lukaista:	'read quickly, skim through'	from <i>lukea</i> ('read')

With atelic verbs it expresses a punctual action:

(27)

kirkaista:	'let out a scream'	from <i>kirkua</i> ('scream')
vilkaista:	'take a glance'	from <i>vilkkua</i> ('blink')
nykäistä:	'pull once'	from <i>nykia</i> ('pull')

3. ele/ile and sk + ele⁷

These affixes can all be associated with frequentative (desultory) meaning, as is illustrated by the following examples:

⁷As far as I can see, the morpheme sk does not add anything to the meaning of the affix; it occurs with ele for ease of pronunciation. Thus, *laulella* and *lauleskella* do not differ in meaning; both express purposeless activity.

(28)

astella:	'stroll'	from <i>astua</i>	('step')
ajella:	'drive around'	from <i>ajaa</i>	('drive')
soudella:	'(go for a) row'	from <i>soutaa</i>	('row')
katsella:	'look at, watch'	from <i>katsoa</i>	('look')
puhella:	'chat'	from <i>puhua</i>	('speak')
keräillä:	'collect, gather'	from <i>kerata</i>	('collect')
varastella:	'practise pilfering'	from <i>varastaa</i>	('steal')
etsiskellä:	'look for (unsystematically)'	from <i>etsiä</i> ,	'look for'
istuskella:	'sit (around)'	from <i>istua</i>	('sit')
lueskella:	'read (at leisure)'	from <i>lukea</i>	('read')
uiskennellä:	'swim (about)'	from <i>uida</i> ,	('swim')
naureskella:	'laugh, have a laugh'	from <i>nauraa</i>	('laugh')
lauleskella:	'sing, have a sing'	from <i>laulaa</i>	('sing')

4.2.3. Summary

To recap, the verbal stem is always vague with respect to completion (i.e. imperfective) (29a), but can be bounded (i.e. made perfective) by an object NP in the accusative case (29b); *aise* can bound a neutral verb (29c), and has the connotation of cursoriness if the verb has already been bounded by an accusative object (29d); *ahta* bounds the neutral verb (29e); *sk+ele* simply specifies that the neutral aspect is imperfective (29f), and, finally, a durational temporal adverbial (e.g. *koko aamun* and *tunnin*) can bound ^{an}unbounded sentence (29g and h).

- (29) a. Marja luki.
Marja read
'Marja read/was reading.'
- b. Marja luki kirjan.
Marja read book (ACC)
'Marja read the/a book.'
- c. Marja kirkui/ kirkaisi.
Marja screamed/screamed (PERF)
'Marja screamed/let out a scream.'
- d. Marja lukaisi kirjan.
Marja read (PERF) book (ACC)
'Marja had a quick look at the book.'
- e. Marja vapisi /vavahti.
Marja shivered /shivered (PERF)
'Marja shivered/gave a start.'
- f. Marja juoksi/juoksenteli
Marja ran /ran (IMPERF)
'Marja ran/ran around.'
- g. Marja luki (kirjaa) koko aamun.
Marja read book (PART) all morning (ACC)
'Marja read the/a book all morning.'
- h. Marja juoksi tunnin.
Marja ran hour (ACC)
'Marja ran for an hour.'

There is a hierarchy with respect to the bounding power of the various factors involved in the determination of the aspectual perspective of a sentence. The most powerful bounding factor is the morphological form of the verb: an imperfective verb cannot occur with a +bounded object, (30a), or a perfective verb with a -bounded object NP (30b):

- (30) a. *Juhani lueskeli kirjan.
Juhani read (IMPERF) book (ACC)
- b. *Marja lukaisi kirjaa.
Marja read (PERF) book (PART)

Durational adverbials are lowest in the hierarchy: they cannot overrule the other bounding elements in the sentence. Specifically, adverbials specifying the duration of an uncompleted event, cannot occur in sentences already bounded by an NP specifying a goal, while adverbials specifying the length of a completed event can. This is illustrated by (31):

- (31) a. Juhani luki kirjan *tunnin/tunnissa.
Juhani read book (ACC) hour (*ACC)/hour (INESS)
- b. Juhani käveli asemalle
*tunnin/tunnissa.
Juhani walked station (ALLAT)
hour (*ACC)/hour (INESS)

One thing to note is that sentences containing the root verb in the simple past are semantically incomplete without a locative phrase and/or a durational temporal adverbial. Consider the following in this respect:

- (32) a. !Pekka juoksi.
Pekka ran
- b. !Lapset leikkivät.
Children played
- c. !Kissa kehräsi.
Cat purred.
- (33) a. Pekka juoksi pihalla/ tunnin.
Pekka ran garden (ADESS)/hour (ACC)
'Pekka ran in the garden/for an hour.'
- b. Lapset leikkivät ullakolla
koko iltapäivän).
Children played attic (ADESS)
all afternoon (ACC)
'The children played in the attic all afternoon.'
- c. Kissa istui sängyllä ja kehräsi
tyytyväisenä.
Cat sat bed (ADESS) and purred
contented. (ESS)
'The cat sat on the bed and purred, contented.'

The exclamation mark indicates that the sentences in (32) are semantically incomplete without a modifier which localises and/or bounds the activities described. The localising or bounding expression can be found in the same sentence, as in (33a) and (33b), or in the preceding context, as in (33c).

Note further that the simple past cannot have an inchoative reading, neither can it refer to ongoing activity in sentences like the following:

- (34) a. !Pekka juoksi kun poliisi saapui.
Pekka ran when police arrived
- b. !Marja ui kun hän näki minut.
Marja swam when she saw me
- c. !Lapset leikkivät kun tulin kotiin.
Children played when I arrived home

By contrast, the following sentences are perfectly acceptable since the activity verb is followed by a localiser:

- (35) a. Lapset leikkivät ulkona kun tulin kotiin.
children played outside when I came home
- b. Marja ui lammessa kun poliisi saapui.
Marja swam pond (INESS) when police arrived

In this case then the sentences are unambiguously imperfective, referring to ongoing activity. (I shall return to these sorts of constructions in Chapter Six).

4.2.4. On Basic Propositions

In the previous chapter it was mentioned that English basic propositions are bounded or unbounded, depending on the inherent aspectual class of the predicate involved. It was also pointed out that the progressive operator changes the aspect of a bounded basic proposition. It is clear, however, that this sort of analysis is not applicable to Finnish. The Finnish basic proposition corresponding to MAX WRITE A LETTER is MAX KIRJOITTAA KIRJE. We could then argue that we need an ACCusative operator to produce bounded (perfective) sentences, and a PARTitive operator to produce unbounded (imperfective) ones:

- (36)
1. ACC [bounded] (MAX KIRJOITTAA KIRJE [bounded])
=> bounded
 2. PART[unbounded] (MAX KIRJOITTAA KIRJE [bounded])
=> unbounded

One problem with this analysis is that in (1) the proposition is bounded twice: first by the predicate type, and second by the case marker, which clearly constitutes a redundancy. In fact, it seems clear to me that accomplishment propositions, such as MAX KIRJOITTAA KIRJE, cannot be said to be inherently bounded, but they are neutral with respect to boundedness. Or rather, the predicate *kirjoittaa* ('write') is aspectually neutral, and it is then the function of the object NP to indicate whether the sentence is bounded or unbounded. Thus, the following would be a more appropriate account of the two aspectual operations:⁸

- (37)
1. ACC[bounded] (KIRJE) {KIRJOITTAA} => bounded
 2. PART[unbounded] (KIRJE) {KIRJOITTAA} => unbounded

What the above representation expresses is that KIRJOITTAA has no bounding

⁸In fact, this sort of analysis has been suggested for e.g. German and Swedish by Dahl (1981), who proposes that the following Swedish sentences:

- a. Katinka stickade på en tröja.
Katinka knitted at a sweater
'Katinka was knitting a sweater.'
- b. Katinka stickade en tröja.
Katinka knitted a sweater

are derived by adding to the neutral verb *sticka* a goal phrase, which in the case of imperfective sentences (sentence (a)) indicates a *potential* end point, and in perfective sentences (e.g. (b)), expresses termination.

value on its own, and the boundedness of an atomic sentence is determined by the boundedness of the object (and subject) NP. Indeed, this type of analysis ties up with the aspect marking in Finnish in general for the following reasons:

1. The aspectually neutral root verbs serve as input to *all* aspect-changing operations; for instance:

NAURAA ('laugh') + ahta => bounded
 + sk+ele => unbounded

2. It accounts for the similarity between the bounding function of the direct object with telic predicates, and that of the goal phrase with verbs of motion:

JUOSTA ('run')
 + TALOLLE (house [allat]) => bounded
 + MAILIN (mile [acc]) => bounded
 + TUNNIN (hour [acc]) => bounded
 + TALOLLA (house [adess]) => unbounded

3. It accounts for the difference between neutral predicates, such as *kirjoittaa* ('write'), *nauraa* ('laugh') and *juosta* ('run'), on one hand, and inherently bounded verbs, such as *saavuttaa* ('reach') and inherently unbounded ones, such as *omistaa* ('own'), on the other hand. The latter, unlike the former, cannot be bounded by a goal phrase, or e.g. by an affix with perfective meaning.

Finally, we should note the following use of terminology. The term *neutral* is used to refer to nondeterminacy regarding boundedness without further sentential context; the term *zero-bounded* refers to an intrinsic lexical property of predicates such as *terottaa*, ('sharpen'), *leventaa* ('widen'), and *killottaa* ('polish'). Thus, sentences involving neutral predicates, such as *kirjoittaa* and *juosta*, are bounded by accusative objects, allative goal phrases, etc. while sentences involving e.g. *terottaa* remain vague with respect to boundedness, because of their inherent meaning.

4.3. Contingent States in Finnish

4.3.1. Introduction

A number of different locative constructions can be used in Finnish to refer to a contingent state. For instance, the adessive case is used to express possession (38), as well as mental/physical states (39):

- (38) . Juhanilla on kirja.
 Juhani (ADESS) is book
 'Juhani has a book'
- (39) Marjalla on nälkä/kylmä/kiire
 Marja (ADESS) is hunger/cold /hurry
 'Marja is hungry/cold/in a hurry.'

The idea conveyed in (39) can also be expressed by the following locative construction where the state is in the inessive case, followed by a possessive suffix:

- (40) a. Marja on nälissään/kylmissään/
 kiireissään
 Marja is hunger/cold/hurry (INESS + POSS)
 'Marja is hungry/cold/in a hurry.'
- b. Pekka on peloissaan/iloissaan/vihoissaan.
 Pekka is fear/joy/anger (INESS + POSS)
 'Pekka is frightened/pleased/angry.'

Now the inessive case in (40) indicates that the state in question is temporary, while the corresponding nonlocative sentence is neutral in this respect. Consider the examples in (41):

- (41) a. Marja on vihoissaan.
 Marja is anger (INESS + POSS)
- b. Marja on vihainen.
 Marja is angry (NOM)
- c. Varokaa vihaista koiraa.
 Beware angry dog (PART)

(41a) means that Marja is furious at this very moment, while (41b) is neutral with regard to contingency: in an appropriate context, as in e.g. *Marja oli vihainen saapuessaan kotiin* ('Marja was angry when she arrived home'), it can acquire a contingent reading. Finally, (41c), translated as 'Beware of the fierce dog', describes an inherent quality associated with the dog. Consider, too, the sentences in (42):

- (42) a. Juhani oli iloissaan.
 Juhani was joy (INESS + POSS)
- b. Juhani oli iloinen.
 Juhani was happy (NOM)
- c. Juhani oli iloinen ihminen.
 Juhani was happy person (NOM)

(42a) means that Juhani was feeling happy (delighted) at a particular point in the past; (42b) can have either contingent or non-contingent reading, depending on context, while (42c) describes a more permanent quality associated with Juhani, implying that he was generally a cheerful person.

Thus, it seems that the locative-nonlocative opposition is used to express the contingent (temporary)-noncontingent (permanent), or rather contingent-unmarked distinction in Finnish, except for the adessive construction expressing possession, whose interpretation depends on context.

4.3.2. The Essive

There is another locative construction in Finnish denoting contingent states, viz. the essive case, which is often discussed by grammarians and linguists. For example, Lyons (1968:301) states that the Finnish essive is employed for contingent, periodic or temporary states of a quality or condition. Similarly, Anderson (1973) points out that (43a) refers to a contingent and (43b) to a noncontingent state:

- (43) a. Isä oli kipeänä.
father was ill (ESS)
b. Kivi on kova.
stone is hard (NOM)

The same thing applies to predicative nominals; for instance, Markkanen (1979) points out that when the state is expressed by the copula and a nominal complement, temporariness can be suggested by the case of the predicate complement:

- (44) a. Pekka on opettaja.
Pekka is teacher (NOM)
b. Pekka on opettajana.
Pekka is teacher (ESS)

where (44a) implies that Pekka is a teacher by profession, and (44b) that he is working as a teacher at the moment.

Following traditional Finnish grammars, such as Penttilä (1963), Markkanen then argues that the use of the essive presupposes that the state has not always existed and will not last for ever, i.e. that the essive state is the result of a *change*, whereas this connotation is absent from the meaning of the corresponding nominative or partitive sentence. Consider the following examples:

- (45) a. Huoneet ovat kylminä
rooms are cold (ESS)
b. Huoneet ovat kylmiä.
rooms are cold (PART)

(45a) implies that the rooms are not heated at the moment, though this is not the usual state of affairs, while (45b) implies that the rooms are characteristically cold.

Markkanen (1979) also points out that the essive construction is not used if the state referred to cannot be conceived of as being temporary; hence the unacceptability of (46):

- (46) *Tyttö on kauniina.
 girl is beautiful (ESS)

To sum up, it is commonly assumed that the Finnish essive case is used to refer to the temporary nature of a stative situation. However, this turns out to provide only a partial explanation for the use of the essive. For one thing, it is not clear why e.g. being beautiful (cf. the example in (46)) could not in some contexts be considered as a temporary state (e.g. in the sense 'The girl looking pretty today').⁹ Moreover, assuming that Finnish treats properties such as being beautiful, poor, hard-working, etc. as permanent, there still remains a number of counter-examples to the above explanation for the use of the essive. Compare now the examples in (47) with those in (48) and (49):

- (47) a. Marja on sairaana/kodittomana/tajuttomana.
 Marja is ill/homeless/unconscious (ESS)
 b. Ruoka oli valmiina./ Ovi oli avoinna.
 food was ready (ESS)/Door was open (ESS)
 c. Paikka oli vapaana. /Kaappi oli tyhjänä.
 seat was free (ESS) /Cupboard was empty (ESS)
 d. Maljakko on ehjänä.
 vase was unbroken (ESS)
- (48) Marja on *vihaisena/*iloisena (tällä hetkellä).
 Marja is angry/happy (ESS) (just now)
- (49) a. Marja oli *väsyneenä /*kalpeana
 (tullessaan kotiin).
 Marja was tired /pale (ESS)
 (when she came home)
 b. Marja oli *köyhänä/*hoikkana (sinä talvena).
 Marja was poor/slim (ESS) (that winter)

It is difficult to see how being angry (48), or tired and pale (49a) could be conceived of as permanent (inherent) states. Indeed, all the sentences in (48) and (49) are explicitly time-restricted, so even the more permanent states of being poor and slim in (49b) could be considered to be contingent. Why is it then that these essive sentences are ungrammatical?¹⁰

⁹This is precisely the distinction grammaticalised by e.g. Portuguese and Spanish (cf. Lyons (1977:717).)

¹⁰As a matter of fact, as we shall see shortly, these sorts of sentences are not strictly speaking ungrammatical; rather, they are unacceptable in most contexts.

One thing to note is that there is a difference between the adjectives in (48) and those in (49): the former are agentive, and the latter nonagentive. I propose then that the reason the sentences in (48) are ungrammatical is that *vihainen* and *iloinen*, etc. are *activity* adjectives (cf. Dowty (1979)), while the copula *be* is clearly stative, hence cannot be combined with dynamic predicates.¹¹

Note further that activity adjectives are perfectly acceptable in the essive construction when combined with a *dynamic* verb, as in the following:

- (50) a. Marja tuli kotiin vihaisena.
Marja came home angry (ESS)
- b. Pekka lauleskeli huonessaan iloisena.
Pekka sang room (INESS) happy (ESS)
- c. Matti istuskeli nurkassa mietteliäänä.
Matti sat corner (INESS) pensive (ESS)
- d. Liisa pysyi katkerana pitkän aikaa.
Liisa stayed bitter (ESS) long time (ACC)

It is clear that (50a) and (50b) refer to dynamic situations. As for (50c) and (50d), we have already established that although predicates like *sit* and *stay* do not express motion, they nevertheless describe a dynamic process.

Consider, too the following:

- (51) a. Aiti katsoi minua hämmästyneenä/
surullisena.
Mother looked at me surprised/sad (ESS)
- b. "Mene pois", hän sanoi vihaisesti/vihaisena.
"Go away", he said angrily/angry (ESS)
- c. Lauloin iloisena /iloisesti.
I sang happy (ESS)/happily
- d. Matti esiintyi typeränä.
Matti performed stupid (ESS)
'Matti pretended to be stupid.'

The essive complement here behaves like a manner phrase: the subject's mental state determines the manner in which the action is carried out. Indeed, as is illustrated by (51b) and (51c), the essive phrase and the manner adverbial can be used interchangeably in some cases.

Finally, as we have seen, the predicate nominals can occur in the essive case in sentences like the following:

¹¹This restriction applies only to the essive construction; as we have seen, the copula is perfectly acceptable with activity adjectives in the inessive case.

- (52) a. Liisa on opettajana Helsingissä.
Liisa is teacher (ESS) Helsinki (INESS)
- b. Marja oli heidän äitinään kaksi viikkoa.
Marja was their mother (ESS) two weeks

First of all, it should be noted that these sorts of sentences need to be spatially or temporally restricted; both (52a) and (52b) sound odd without the locative or temporal modifiers. Thus, Markkanen's explanation regarding the use of the essive with predicate nominals is clearly inadequate (cf. example (44) above). Moreover, the sentences in (52) describe dynamic situations, referring to a *temporary* habit. (52a) means that Liisa works as a teacher in Helsinki at the moment, the implication being that she has worked somewhere else (and possibly, though by no means necessarily, in a different profession) before, while (52b) signifies that Marja played the role of a mother for a restricted period.

We still have to provide an explanation for examples like (49): what is the difference between these and the adjectives in (47)? One thing to note is that the latter refer to an *absolute* state, and the former to a relative state; i.e. the former represent *nongradable* and the latter *gradable* terms. Although this fact is relevant, it is not, however, sufficient on its own to explain the data. Consider, for example, the following:

- (53) a. Lakanat olivat puhtaina.
sheets were clean (ESS)
- b. Huoneet ovat kylminä.
rooms were cold (ESS)
- c. Talo on pimeänä.
house was dark (ESS)

Puhdas, *kylmä* and *pimeä* are clearly gradable terms; however, as is illustrated by (53), they do occur in the copula + essive construction. It is important to realise that (53a) does not refer so much to the sheets being clean as to the fact that they have been washed; similarly, (53b) does not refer to the temperature of the rooms; rather, it means that they have not been heated, and, finally, (53c) refers to the fact that the lights have not been switched on.

It seems then that the copula + essive-construction has the following meaning. First, it refers to a state resulting from a specific action, or a change, as in (53a), or from the failure to carry out the action or bring about the change, as in (53b) and (53c). Second, the change is inherently associated with two states, a positive and a negative one. Consider the following in this respect:

- (54) a. Lakanat ovat likaisina.
 sheets were dirty (ESS)
- b. Huoneet olivat lämpiminä.
 rooms were warm (ESS)

(54a) refers to the fact that the sheets haven't been washed (i.e. it is the negative counterpart of (53a)). Similarly, (54b), which is the positive counterpart of (53b), means that the rooms have been heated. Again, (54a) does not necessarily entail that the sheets are dirty, or (54b) that the rooms are warm, in any objective sense.

We can see now why the sentences in (47) are acceptable but those in (48) are not. All the essive states in (47) result from a specific action or a change of state: (47a) implies that Marja has fallen ill/lost her home/lost her consciousness; (47b) implies that the meal had been cooked and the door opened; (47c) implies that the seat hadn't been taken and the cupboard had been emptied, and, finally, (47c) implies that the vase hasn't been broken. Thus, in each case, it is possible to think of a specific action or a change of state which results in the subject being in either the positive or the negative state inherent to the change.

By contrast, it is difficult to think of a specific action which would automatically result in Marja's being tired/poor, or alternatively full of energy/rich if the action is not carried out. The following is a possible scenario: Every week Marja has all the money on her bank account transferred into Juhani's account, and the following week the money is transferred back into Marja's account. When Marja has no money in her account, we can say: *Marja on köyhänä tällä viikolla* ('Marja poor this week'); by contrast, when the money has been transferred back, we can say: *Marja on rikkaana* ('Marja is rich'). The important thing to note is that *Marja on köyhänä* or *Marja on rikkaana* do not refer to a relative (objective) state, but to an *absolute* state resulting from the act of transferring the money.

One thing to note is that the adjectives in (49), just like those in (48), can occur with dynamic predicates:

- (55) a. Marja palasi Austraaliasta köyhänä/ruskeana.
 Marja return Australia (ELAT) poor/brown (ESS)
- b. Liisa istui nurkassa kalpeana.
 Liisa sat corner (INESS) pale (ESS)
- c. Lapset makasivat lattialla uupuneina.
 Children lay floor (ADESS) exhausted (ESS)
- d. Pekka pysyi rauhallisena/kalpeana pitkän aikaa.
 Pekka stayed calm (ESS) /pale (ESS) long time

It is clear then that in Finnish too *istua*, *maata*, etc. describe dynamic processes, and further that, unless the essive denotes an absolute state, it can only occur with

a dynamic predicate.¹²

I propose then that we cannot explain the use of the essive case without recourse to the notion of 'spatio-temporal boundedness'. The states in (47) are bounded in the sense that the specific action involved sets a limit on their occurrence; those in (48) and (49) need to be related to a bounded sentence, while the predicate nominals in (52) have to be combined with a temporal or spatial modifier. In other words, if the essive state cannot have an absolute reading, the relative state must, one way or the other, be supplied with boundaries.

4.3.3. The *Iness3*

Another locative construction referring to contingent states is the copula + inessive case of the 3rd Infinitive (*Iness3* henceforth). It is often called the Finnish "progressive" construction (cf. e.g. Markkanen (1979)) since it has some of the uses of the English progressive, as is illustrated by (56):

- (56) Hän on työhuoneessa kirjoittamassa kirjettä
he is study (INESS) writing (INESS3) letter (PART)

which can be translated as 'He is in his study writing a letter'. However, as we shall see shortly, the term "progressive" is rather misleading.

Since inessive is a locative case *par excellence* it is natural that the *Iness3* construction should have a connotation of locality. Consider the following in this respect:

- (57) a. Isä on laittamassa päivällistä.
father is prepare (INESS3) dinner (PART)
'Father is making dinner.'
- b. Lapset ovat poimimassa marjoja.
children were pick (INESS3) berries
'Children were picking berries.'
- c. Olin kuuntelemassa musiikkia.
I was listen (INESS3) music (PART)
'I was listening to music.'

¹²It is also worth mentioning that in the following

a. ?Pekka oli katkerana monta päivää.
Pekka was bitter (ESS) many days

b. Pekka oli siitä katkerana monta päivää.
Pekka was it (ELAT) bitter (ESS) many days
'It caused Pekka to remain bitter for several days.'

(b) is considerably better than (a). The reason for this difference in acceptability seems to be that (b) is bounded in the sense that the source phrase *siitä* ('because of it') provides a left-bound for the state in question.

As is pointed out by Markkanen (1979), all these sentences are appropriate answers to *where*-questions: 'Where is mother/Where are the children/Where were you'? Thus, the reference is not only to the process of cooking/berry picking etc., but to the customary place where such activities take place (e.g. the kitchen, and the forest). In fact, the Iness3 construction can never be used to refer to the activity alone, without referring the locality at the same time. Consider, for example, the following dialogue between A and B, taking place outside a tennis court:

- (58) A: What are those people doing?
B: They are playing tennis

The Finnish translations for (58) would be:

- (58') A: Mitä nuo ihmiset tekevät/ *ovat tekemässä
what those people do (SPr)/*are do (INESS3)
B: He pelaavat tennistä/*ovat pelaamassa tennistä
they play (SPr) tennis /*are play (INESS3) tennis

In other words, the present tense has to be used, instead of the Iness3, since the emphasis is on the ongoing activity, and not on the location. Note that if A and B are at home, and the former starts wondering about the whereabouts of their children, then the following conversation can take place:

- (59) A: Missä Juhani ja Marja ovat?
where Juhani and Marja are
B: He ovat tennistä pelaamassa
they are tennis playing (INESS3)

Markkanen also points out that there are activity verbs which are incompatible with the Iness3:

- (60) a.*Tyttö oli nauramassa.
girl was laugh (INESS3)
b.*Vauva oli itkemässä.
baby was cry (INESS3)
c.*Pekka on haukottelemassa.
Pekka is yawn (INESS3)

She suggests that the sentences in (60) are ungrammatical because it is not possible to associate the activities described with a location in which they typically take place. By contrast, the examples in (61a) are grammatical since swimming, running etc. can be associated with such a location (a swimming-pool, etc):

- (61) a. Pekka on uimassa/juoksemassa/pyöräilemässä.
 Pekka is swim /run /cycle (INESS3)
- b. Liisa on nukkumassa.
 Liisa is sleep (INESS3)

However, it is important to note that the English progressive form alone is not sufficient to convey the meaning of the Iness3 in (61a), but has to be complemented with a locative phrase. Thus, for instance, *Pekka on pyöräilemassa* could be translated as 'Pekka is out cycling'. Alternatively, it could be translated as 'Pekka has gone cycling/for a cycle ride'. Similarly, (61b) does not mean 'Liisa is sleeping/asleep', but rather, 'Liisa has gone to bed', or 'Liisa is in bed'.

It seems to me, however, that the sentences in (60) are pragmatically odd, rather than ungrammatical, as Markkanen claims. Indeed, these sorts of sentences *are* acceptable if the situation described can be bounded; specifically, the process expression must (normally) be combined with a locative expression, and the sentence is then taken to mean that the subject has gone to the place denoted by the locative phrase with the *intention* of carrying out the named activity. For instance, *Pekka on ullakolla nauramassa* ('Pekka is laughing in the attic) can be uttered if Pekka has gone to the attic with the specific purpose of carrying out some laughing.¹³

Markkanen claims that the verbs in (60) *can* in some contexts occur in the Iness3 form, as in (62):

- (62) Vauva oli itkemässä kun tulimme kotiin.
 baby was cry (INESS3) when we came home

She claims that in (62) the Iness3 form, *olla itkemassa*, instead of the simple past, *itki*, is used because otherwise the sentence would be ambiguous between the readings 'The baby started crying when we came home' and 'The baby was crying when we came home'; in other words, it could have an inchoative or an overlap interpretation.

In this sort of context the Iness3 necessarily loses its connotation of locality, and is used to refer to ongoing activity, like the English progressive form. However, my claim is that the Iness3 construction combined with atelic predicates always has the connotation of locality and intentionality; it can never be used to refer to the

¹³Consider, for example, the following scenario. Pekka plays a character in a school play who laughs in a peculiar manner. As Pekka finds it difficult to produce the required noise, he has to practise it at home. We can utter then:

Pekka on nauramassa ullakolla.
 Pekka is laugh (INESS3) attic (ADESS)

if we wish to imply that Pekka has gone to the attic in order to practise his laughing.

activity alone.¹⁴ So (62) can only mean that before we arrived home the baby had gone to a specific place to do some crying, which is, of course, a rather odd interpretation.

The claim that the connotation of locality does not disappear in sentences like (62) is further supported by the fact that the Iness3 construction cannot be modified by a manner adverbial, as is illustrated by the sentences in (63):

- (63) a. *Marja oli nauramassa äänekkäästi ullakolla.
 Marja was laugh (INESS3) loud attic (ADESS)
- b. *Lapset olivat poimimassa marjoja hitaasti.
 children were pick (INESS3) berries slowly
- c. *Poika oli uimassa kovaa vauhtia.
 boy was swim (INESS3) high speed

The reason for the ungrammaticality of the sentences in (63) seems to be that they are clearly stative in nature, and statives cannot normally be modified by a manner adverbial. (cf. e.g. **He knew the answer slowly*, and **He was in the sitting room heartily*). It is clear then that the connotation of locality is stronger than the connotation of activity in sentences like (63).

However, if the sentences refer to a telic situation, the manner adverbial is perfectly acceptable, as (64) illustrates:

- (64) a. Poika oli uimassa hitaasti saarta
 kohti kun ...
 boy was swim (INESS3) slowly island
 towards when ...
- b. Jussi oli laittamassa ruokaa
 Jussi was make (INESS3) food
 kovalla kiireellä kun ...
 great hurry (ADESS) when ...

It seems then that the connotation of activity is stronger than the connotation of location in the sentences in (64); or rather, the sentences indicate that the subject is located in a middle of a dynamic situation. In this case then the Iness3 constructions behave like the English progressive.

Now if we wish to refer to an ongoing activity (in the past) without the connotation of locality, we have to use the simple past form, as in (64):

¹⁴There is one atelic predicate which seems to be an exception to the intentionality rule; viz. *nukkua*, which can occur in the Iness3 construction:

Pekka on nukkumassa.
 Pekka is sleep (INESS3)

However, as we have seen, the above sentence does not refer to the state of sleeping; rather, it refers to the act of going to bed, which can of course be intentional. *Nukkumassa* then has to be regarded as an idiomatic use of the Iness3.

- (65) a. Vauva itki kopassaan.
 baby cry (SP) cot (INESS + POSS)
 'The baby was crying in its cot.'
- b. Marja juoksenteli ympäri huonetta.
 Marja run (SP) round room
 'Marja was running around the room.'

Note further that the connotation of intentionality is not necessary in the case of predicates referring to telic situations, as is illustrated by the following:

- (66) a. Annan jalka parani/ oli paranemassa.
 Anna (GEN) foot improve (SP)/was improve (INESS3)
 'Anna's foot got better/was getting better.'
- b. Lentokone laskeutui/oli laskeutumassa.
 airplane land (SP)/was land (INESS3)
 'The airplane landed/was landing.'

Parantua and *laskeutua* are zero-bounded predicates which denote a process leading up to a terminal point, as well as individual stages in that process. It is in cases like this that the Iness3 construction can be used to differentiate between imperfective and perfective readings (cf. Markkanen's comments on sentence (62)).

As was mentioned in Chapter Three, it has been suggested e.g. by Anderson (1973) that progressive constructions in a number of languages are syntactically identical to locative constructions; therefore, they refer to a specific point located in the middle of the situation. This characterisation is basically correct for the Finnish Iness3 construction; however, we need to add the following two conditions:

1. The situation referred to by the Iness3 construction must have boundaries.
2. The situation must have a certain extension.

As we have seen, one of the functions of the Finnish Iness3 is to express imperfective aspectual perspective with durative telic predicates, as in (56). It is clear that in these sorts of cases both conditions are fulfilled: the situation referred to is telic, hence bounded (Condition 1) and durative, hence extended (Condition 2).

The Iness3 is also used with atelic predicates if they can be associated with a typical locality. I suggest then that it is precisely this connotation of locality that provides boundaries for processes such as swimming and skiing: the journey to the location represents the beginning of the situation, the activity performed in the location represents the middle, and the return journey can be regarded as representing the end of the situation. Thus, the notion of journey can refer to a 'micro' structure when applied to a telic process such as writing a letter, or to a

'macro' structure in the case of swimming or skiing trips. Furthermore, the Illative case of the Third Infinitive can be used to indicate the journey to the location, while the Elative case refers to the return journey (the end of the situation). Consider the following in this respect:

- (67) a. Juhani meni uimaan.
 Juhani went swim (ILLAT3)
 'Juhani went swimming.'
- b. Juhani oli uimassa
 Juhani was swim (INESS3)
 'Juhani was (out) swimming.'
- c. Juhani tuli uimasta.
 Juhani came swim (ELAT3)
 'Juhani came back from the swimming trip.'

Two further points should be made in connection with the boundary condition (Condition 1). First, atelic predicates occurring in the Iness3 are often bounded by a locative expression, unless the situation referred to can be associated with a typical locality. This is illustrated by (68):

- (68) a. !Lapset olivat leikkimässä!/Pekka oli kutomassa.
 children were play/Pekka was knit (INESS3)
- b. Lapset olivat leikkimässä pihalla/
 children were play (INESS3) yard (ADESS)/
 Pekka oli kutomassa verannalla.
 Pekka was knit (INESS3) balcony (ADESS)

The sentences in (68a) are decidedly odd unless the localiser can be understood from the context, or is made explicit, as in (68b).

Second, the notion of 'boundedness' should not be equated with telicity; rather, the former subsumes the latter. Thus, the following sentences are traditionally classified as atelic:

- (69) a. Lapset olivat pelaamassa korttia.
 children were play (INESS3) cards
- b. Mikko oli soittamassa pianoa.
 Mikko was play (INESS3) piano
- c. Marja oli katselemassa Tv:tä.
 Marja was watch (INESS3) TV

They are, however, perfectly acceptable since they can all be interpreted as referring to situations which have a beginning, middle and end: a game of cards, a piece of music and a television programme, respectively.

As for punctual predicates, these cannot occur in the Iness3 construction since they refer to a situation lacking extension (Condition 2). Consider the following in this respect:

- (60) a.**Tyttö oli naurahtamassa.*
 girl was laugh (PERF)
- b.**Pekka oli kirkaisemassa.*
 Pekka was scream (PERF)
- c.**Marja oli lukaisemassa kirjaa.*
 Marja was read (PERF) book

As we have seen, both the affixes *ahta* and *aise* indicate punctuality, which is why (70a), (70b) and (70c) are all ungrammatical. (71), too, contains a punctual predicate *ostaa* ('buy'); however, it is perfectly acceptable if interpreted as referring to the shopping trip as a whole, rather than to the actual transaction:

- (71) *Marja oli ostamassa kenkiä.*
 Marja was buy (INESS3) shoes

By contrast, the sentences in (70) cannot be used to refer to such an extended situation; therefore, it is impossible to process them.

The same applies to the following sentences:

- (72) a.**Pekka oli saavuttamassa huippua.*
 Pekka was reach (INESS3) top (PART)
- b.**Pekka oli huomaamassa tyttöä.*
 Pekka was notice (INESS3) girl (PART)
- c.**Pekka oli voittamassa kilpailua.*
 Pekka was win (INESS3) competition (PART)
- (73) a.**Pekka oli hukkumassa.*
 Pekka was drown (INESS3)
- b.**Pekka oli kuolemassa.*
 Pekka was die (INESS3)
- c.**Juna oli pysähtymässä.*
 train was stop (INESS3)

It seems then that in Finnish reaching a top, dying, stopping, etc. are presented as punctual events, which is why *saavuttaa*, *kuolla*, and *pysähtyä* cannot be combined with the Iness3.

Finally, we should note that stative predicates which refer to inherently unbounded (noncontingent) situations cannot occur in the Iness3 construction. Because of their inherent meaning, they, unlike atelic dynamic predicates, cannot be bounded by a locative expression; hence the ungrammaticality of the following:

- (74) a. *Pekka oli rakastamassa Marjaa keittiössä.
Pekka was love (INESS3) Marja kitchen (INESS)
- b. *Matti oli omistamassa taloa pihalla.
Matti was own (INESS3) house yard (ADESS)

We can now see the similarities between atelic predicates in the simple past (e.g. *Pekka itki*, 'Pekka cried', atelic predicates in the Iness3 (*Pekka oli itkemassa*, 'Pekka was crying'), as well as the essive construction referring to a relative state (e.g. *Pekka oli rikkaana*, 'Pekka was rich'): in order to be semantically complete, all of them have to be bounded in one way or the other. These sorts of constructions are discussed in more detail in Chapter Six, where the notion of 'spatio-temporal anaphora' is introduced.

4.4. Conclusion

On the basis of their *inherent* meaning, Finnish predicates can be divided into the following classes:

(75)

1. DYNAMIC:

A. Neutral:

i. Motion:

nauraa ('laugh'), kävellä ('walk'),
juosta ('run'), kirjoittaa ('write'),
vapista ('shake')

ii. Nonmotion:

seistä ('stand'), istua ('sit'), maata ('lie'),
levätä ('rest'), nukkua ('sleep')

B. Bounded: (Punctuals)

saavuttaa, voittaa ('win'), julkaista ('publish'),
antaa ('give'), ostaa ('buy'), ampua ('shoot'),
työntää ('push')

2. STATIVE:

C. Unbounded:

i. Neutral:

(olla) Lontoossa/kalpea/vihainen/opettaja
(('be) in London/pale/angry/teacher')

ii. Noncontingent:

sisältää ('contain'), omistaa ('own'),
tuntea ('know'), ymmärtää ('understand'),
vihainen/iloinen ('angry/happy')

The following kinds of operations produce *autonomous* (perfective) sentences:

(76)

1. AUTONOMOUS (Perfective)

A. Bounded Verb[SP] + NP[ACC] (border-crossings):

(Matti voitti kilpailun/tuli kotiin)
Matti won race /came home

B. Neutral Verb[SP] + NP[ACC] (extended journeys):

(Matti kirjoitti kirjeen/ui kilometrin/luki tunnin/
käveli kotiin)
Matti wrote letter/swam kilometre/read hour/
walked home

C. Neutral Verb[SP+IMPERF] + NP[ACC]:

(Matti lueskeli tunnin)
Matti read hour

D. Neutral Verb[SP+PERF] (+ NP[ACC]):

(Matti naurahti/lukaisi kirjan/istahti)
Matti laughed/read book/sat

Note that NP[ACC] is used in (76) to represent not only accusative objects (e.g. *kirjeen*), and temporal modifiers (e.g. *tunnin*), but also goal phrases, such as *kotiin*.

The following types of operations produce *nonautonomous* sentences:

(77)

2. NONAUTONOMOUS (Locative)

A. Neutral Verb[SP (+ IMPERF)] + NP[LOC]:

(Matti ui/skenteli järvessä)
Matti swam lake

B. Neutral Verb[SP] + NP[PART] (+ NP[LOC]):

(Matti kirjoitti kirjettä (huoneessaan))
Matti wrote letter room

C. Copula[SP] + Neutral Verb[INESS3] (+NP[PART] (+NP[LOC])):

1. (Matti oli kirjoittamassa kirjettä (huoneessaan))
Matti was write letter room

2. (Matti oli leikkimässä huoneessaan)
Matti was play room

D. Neutral Verb[SP] (+ NP[LOC]) + Neutral State[ESS]

1. (Matti seisoi nurkassa kalpeana)
Matti stood corner pale

2. (Matti oli sairaana)
Matti was ill

NP[LOC] is used in (77) to represent the locative expression providing boundaries for the processes and states in question. It is optional in the case of telic sentences (B and C1), and sentences describing absolute states (D2).

It should be noted that (77) does not represent an exhaustive list of Finnish nonautonomous sentences: other kinds of aspectual constructions, viz. the Retrospective/Ablative and the Prospective are discussed in the next chapter.

Chapter Five

Tense, Aspect and Mood

5.1. Introduction

The correlation between tense and modality on one hand, and tense and aspect on the other, are well-known. Specifically, there is an obvious similarity between Future tense and Potential modality since future events are necessarily based on the speaker's beliefs, predictions and intentions (cf. Lyons, 1968). There is also a correlation between Past tense and e.g. Conditional mood. As has been pointed out by Lyons (1977), only the present tense refers to the actual world, i.e. the world experienced directly by the participants in the speech situation, while the past and future tenses describe events occurring in alternative/nonactual worlds. Hence, these two tenses can be used to express intentions, wishes, predictions, hearsay or inferences.

As for tense and aspect, there is a natural correspondence between Present tense and Imperfective aspect, and Past tense and Perfective aspect: the former is used to describe, and the latter to narrate (cf. e.g. Lyons, 1968, and Chung and Timberlake, 1985).¹ As Comrie (1976) has pointed out, the imperfective expresses in the past tense an aspectual value that is typical of the present. In fact, the imperfective is traditionally characterised as the 'Present in the Past', while the perfective past is the true 'Past' tense.

The correlation between aspect and mood is less often commented on. One obvious relation is that between Imperfective aspect and **Irrealis** (Potential/Inferential) mood, and Perfective aspect and **Realis** (Indicative) mood (cf.

¹As we have seen, there are counterexamples to this general principle; for instance, the historic present is a narrative tense.

e.g. Wallace, 1982). Imperfective aspect can refer to a potential future event; for instance, the English progressive form is used for modal distinctions, as well as for the purely aspectual ones. Similarly, the present perfect has modal uses in many languages (though not in English); for instance, it is often used to express Inferential modality (cf. Section 5.3.2 below).

Chung and Timberlake (1985) point out that the most striking property of tense, aspect and mood is that they all make reference to a point on the temporal dimension. In particular, tense locates an event with respect to the tense locus (ST, roughly), while aspect characterises the dynamicity or closure of an event within the event frame (RT). Chung and Timberlake suggest then that tense and aspect could be subsumed under a single category of *tense_aspect*, which characterises the relation between an event and salient points on the temporal dimension. Mood in turn characterises the relation between an event and alternative worlds that might exist at a point in time. The actual world that is opposed to the alternative worlds is analogous to the temporal reference that serves as tense locus, i.e. it provides a standard against which the event is evaluated.

So far we have only mentioned one aspectual distinction: Perfective vs. Imperfective. It is, however, possible to distinguish other kinds of imperfective aspects. For instance, Anderson (1973), who defines aspect as "the relation of an event or state (E) to a particular reference point (R)", also distinguishes **Prospective** and **Ablative/Retrospective** aspects. He then distinguishes the following three imperfective aspectual categories:

(1)

- | | |
|--|---------------|
| 1. Progressive | $E \supset R$ |
| <i>He is/was writing a letter</i> | |
| 2. Ablative/Retrospective | $E < R$ |
| <i>He has/had written a letter²</i> | |
| 3. Prospective | $R > E$ |
| <i>He is/was about to/going to write a letter/
on the point of writing a letter.</i> | |

Thus, aspectual distinctions are used by the speaker to focus on a particular phase of a situation: the Progressive aspect locates the focus inside the event; the Prospective and Ablative aspects place the temporal focus just outside the event proper (preceding and following it, respectively). The speaker also decides on the modality of the proposition, i.e. whether the proposition represents an assertion, an inference, an intention, etc. The distinction between mood and aspect is not at all

²The difference between Retrospective and Ablative is discussed below; as we shall see, strictly speaking, only the latter represents an aspectual distinction.

clear-cut; in both cases, we are concerned with the speaker's subjective view of the situation. The similarity between mood and aspect is particularly striking where a specific (Imperfective) aspect views the situation from outside, as is the case with Prospective and Ablative aspects.

Anderson claims, however, that there is one way of distinguishing aspectual and modal uses of verb forms. In sentences expressing Imperfective aspect, a point-of-time adverbial can only localise the reference time, and not the event. In sentences referring to modality, by contrast, a temporal adverbial can localise the event itself. Thus, Anderson considers the *be about to* construction to express Prospective aspect in (2a), while the progressive form with the adverbial *tomorrow* expresses Potential mood in (2b):

- (2) a. He is about to leave now/*tomorrow.
 b. He is leaving now/tomorrow.

As we have seen, the same thing applies to the English present perfect, which is anchored to the present time, and cannot, therefore, combine with definite time adverbials, as is illustrated by (3): this respect:

- (3) a.*He has written the letter yesterday.
 b. He has just/now written the letter.

Thus, the perfect is considered to be an aspect. However, this is just an idiosyncrasy of English; as we shall see shortly, the perfect can express modal distinctions in other languages, and hence occur with point-of-time adverbials.

Following Chung and Timberlake (1985), I assume that tense and aspect can be subsumed under a single category, and following Anderson (1973), I assume that in aspectually complex sentences a punctual temporal adverbial locates the reference point, and not the event. We can then represent the various aspectual and modal distinctions as follows:

- (4)
- | | | |
|---------|---|------------------|
| Aspect: | 1. Simple: | E, L |
| | 2. Progressive: | R, L \subset E |
| | 3. Prospective: | R, L $>$ E |
| | 4. Ablative: | E $>$ R, L |
| Mood: | 1. FUTURE (Potentiality (prediction/intention)) | W0 (=R) $>$ W1 |
| | 2. PAST (Potentiality (inference/hearsay)) | W1 $>$ W0 (=R) |

where E represents an event, L an overt temporal localiser, R an abstract reference point, W0 the actual world, and W1 a nonactual world.

It should be noted that these are but abstract semantic categories which are realised differently (if at all) in different languages. In the remainder of this chapter, I shall discuss the expression of these semantic distinctions in English and Finnish, with special emphasis on the interaction of aspect and mood. Finnish is used here as an analytical tool to throw light on some of the aspectual distinctions which are not grammaticalised in English.

The concepts of 'event structure', 'preparatory phase' and 'consequent phase' are discussed throughout the chapter. A three-level analysis of the progressive and perfect forms (and the corresponding Finnish aspects) is proposed; specifically, it is argued that we need to separate semantic and pragmatic levels of description on one hand, and aspectual and modal levels on the other. It is further claimed that the Basic Meaning Theories proposed by e.g. Moens and Steedman (1988) and King (1984) fail to distinguish these three levels of description.

The adequacy of the Reichenbachian notion of RT is again called into question; in particular, it is argued that the Reichenbachian model cannot account for the aspectual and modal levels of description required for the analysis of the various aspect forms.

5.2. Progressive and Perfect Operators

5.2.1. *The Progressive and Four Situation Types*

As we have seen, the progressive can occur with the following four predicate/situation types:

(5)

- | | |
|--------------------------|----------------------------|
| 1. Culminations: | John was reaching the top |
| 2. Culminated Processes: | John was writing a letter. |
| 3. Processes: | John was running. |
| 4. Points: | John was winking. |

According to the Basic Meaning theory of tense forms, which was discussed in Chapter Three, the meaning of the progressive form remains constant across situation types; specifically, the progressive is used to refer to the middle of the situation referred to by the lexical verb (cf. e.g. King, 1984, Vlach, 1981, and Moens and Steedman, 1988).

Progressive sentences involving culmination and culminated process expressions used to pose a problem for truth conditional theories of aspect. This problem is known as 'the Imperfective Paradox' (cf. e.g. Dowty (1977)), and it arises from the

topological character of the truth conditions proposed for the progressive. So, for example, Dowty (1977) claims that the set of instants at which the progressive of a sentence S is true is a function of the set of intervals at which S is true. The problem is that although this works with processes (so we cannot have *Max was running but he never ran*), it does not work with culminations and culminated processes (it is possible to say *Max was building a house but he never built it*).

Several theorists have then set out to determine truth conditions for the progressive that are not purely topological. For instance, Vlach (1981) suggests that any correct account must make central use of the notion of a **process**, proposing the following definition for progressive sentences:

(6) $PROG(S) \text{ iff } stat(proc(S))$

where *stat* stands for 'stative', and *proc* for 'process'. According to the above definition, the function of the progressive operator is to make a process proposition stative. In the case of processes (e.g. *run*), the clause reduces to Prog(S) iff Stat(S), while in the case of accomplishments (*write a letter*), the process is assumed to consist of whatever leads to the truth of the sentence.

The situation is more complicated with respect to achievements. With some predicates, e.g. *die* and *reach a top*, we can talk about "the process that characteristically leads to the truth of S" (Vlach, 1981: 290). However, Vlach concedes that there are achievement verbs which cannot be associated with such a characteristic process; for instance, he considers constructions such as *Max is winning the race* to be more or less idiomatic. As Vlach points out, it is not appropriate to say *Max is winning the race* if Max is ahead at the time of the utterance, but looks exhausted, and is about to be overtaken. In other words, the speaker must believe that Max has a good chance of actually finishing first. The progressive then also involves the speaker's propositional attitudes, rather than mere topological temporal notions.

Some linguists, e.g. Bartsch (1985), argue that we need to refer to notions like 'intention' and 'result' in order to define the truth of *all* telic sentences combining with the progressive since their truth cannot be defined in purely topological notions. So, according to Bartsch, a sentence such as *John is writing a letter* is true iff "John is writing and this with the intention to produce a letter as the result of this activity." (Bartsch, 1985:11). However, according to Nakhimovsky (1988), the interpretation of telic progressive sentences requires *default (nonmonotonic)* reasoning: the progressive sentence puts the RT (temporal focus) in the middle of the activity and we infer, unless told otherwise, that the activity will come to its natural end.

The notion of 'process' associated with progressives has been taken up by many theorists. For instance, as was mentioned in Chapter Three (Section 3.3.2.), Moens and Steedman (1988) argue that the progressive in English is a function which takes a process as input and coerces it into a state. Moreover, in order to be able to occur with the progressive, the different aspectual categories have to be coerced into processes (except for processes themselves, of course, which can unproblematically occur with the progressive). Thus, points are coerced into processes by being iterated. In the case of culminated processes, the culmination is stripped off, which leaves behind a *preparatory process*; similarly, with culmination expressions, the culmination is stripped off, but in this case we need to *create* a preparatory process.

5.2.2. The Perfect

5.2.2.1. Retrospective and Inclusive Perfects

The present perfect has traditionally been associated with two basic meanings: (1) **Retrospective Present** and (2) **Inclusive Present**. According to Jespersen (1924:271-72), "the perfect is a retrospective present, which looks upon the present state as a result of what has happened in the past; and second, the perfect is an inclusive present, which speaks of a state that is continued from the past into the present time". Compare the examples in (7) and (8):

- (7) a. Mary has written the letter.
b. Mary has been to Singapore.
- (8) a. Mary has been writing a letter
(for hours/all afternoon).
b. Mary has been in Singapore
(for 2 weeks/since Friday).

The sentences in (7) are examples of the Retrospective meaning, (a) exemplifying the Perfect of 'Result' and (b) an Experiential Perfect, while the sentences in (8) are examples of the Inclusive Present meaning, i.e. they exemplify a Perfect of 'Persistent situation', to use Comrie's terminology (cf. Comrie, 1976).

The Retrospective meaning can further be divided into two distinct strands: **Ablative** and **Non-ablative** (cf. Anderson, 1973:28-9). The former meaning involves the notion of 'recentness', which is exemplified by the French periphrasis *venir de*, while the latter is neutral with respect to the 'pastness' of the event described by the main verb. There seems to be a continuum between Retrospective sentences referring to a temporally remote situation, and those referring to a temporally close situation so that the Experiential Perfect is used in the former

case and the Ablative Perfect in the latter, while the Perfect of 'Result' falls somewhere in between, or is neutral in this respect. Indeed, some languages have a distinct form with Experiential Perfect meaning (i.e. they grammaticalise the Experiential-Resultative distinction), and others have a distinct ablative retrospective form.³ In languages like English, the degree of the 'pastness' of the situation is pragmatically determined, as is illustrated by the following sentences:

- (9) a. I've read War and Peace (once in my life).
b. I've (already) written the letter.
c. I've just had my dinner.

5.2.2.2. *The Simple Past and Perfect Opposition*

A number of explanations have been offered as to the difference between the simple past and the present perfect forms in English. For instance, Huddleston (1969) points out that the simple past involves only one tense selection, while the perfect tense involves two: past and present. Anderson (1973:65) also argues that the present perfect is associated with two temporal points: *primary*, which relates to tense, (and accounts for the difference between the present and the past perfects, as in *He has/had written the letter*), and *secondary*, which refers to an indefinite past time associated with perfect forms (accounting for the difference between simple tenses and perfect tenses). Furthermore, Anderson points out that both reference points can be overtly expressed, so *ever* in *Have you ever read that book* is [+past], while *now* in *I've read the book now* is [-past].

Another difference is that a definite reference point must be specified for the simple past tense, while such a specification is not required for the present perfect. For instance, Allen (1966) claims that both tenses denote time prior to the moment of speaking, but the past tense form is used when reference is made to definite/identified time, while the present perfect is unacceptable with overt time specification. Allen then sees a parallelism between the past tense and the present perfect opposition on one hand, and the definite and indefinite NP dichotomy on the other. Like the definite NP, the past tense can refer to something unique, as in (10a), or it can be definite because it has already been mentioned, as in (10b):

- (10) a. Napoleon died in St. Helena.
b. I've been to the Castle only once.
Did you like it?

³According to Anderson (1973:29), there is a distinct ablative retrospective in Scottish Gaelic, and Welsh, while Comrie (1976:59) reports that in Mandarin Chinese a distinction is made between Experiential and Non-Experiential uses.

One common explanation for the choice of the present perfect in a particular context is that it is used to refer to a present state which is the *result* of a past event (cf. e.g. Jespersen, 1931, and Comrie, 1976). Some authors prefer the more neutral term *current relevance*; for instance, Palmer (1974:50) claims that the meaning of the present perfect is that "some way or other (not necessarily in its results) the action is relevant to something observable at the present".⁴

A number of authors, including Moens, 1987; Inoue, 1979, McCoard, 1978], King, 1984, and Moens and Steedman, 1988, have argued that these different accounts of the present perfect rely heavily on contextually determined meanings, thereby failing to account for its *basic* meaning. I shall now look in some detail at the proposals by Moens and Steedman (1988) and King (1984), who offer a Basic Meaning account of the perfect form.

Moens and Steedman (1988) claim that a perfect is a function that requires its input category to be a culmination (+conseq), and its output is the corresponding consequent state (cf. Chapter Three, Section 3.3.1.). Indeed, it can be observed that the perfect is infelicitous if the event it describes cannot be associated with salient consequences. For instance, when I am on my way to get a cloth to wipe up the coffee I accidentally spilled, I can say:

(11) I have spilled my coffee.

After cleaning the mess, it would be infelicitous to utter (11) since the relevant consequences can no longer be observed.

If the input to the perfect is not a culmination, then, according to Moens and Steedman, the sentence has to be coerced to be one. However, if the hearer cannot associate *any* consequences with the event, as in (12), the perfect will be unacceptable:

(12) #The star has twinkled.

Moens and Steedman further claim that their account provides an explanation as to the unacceptability of the English perfect with time adverbials specifying a definite time in the past. Consider the examples in (13):

⁴It has been suggested by Palmer (1974) that the term 'current relevance' is more accurate since the resultative uses often include 'nil' results, as the following:

I have written, but they haven't replied.

However, as Jessen (1975) has pointed out, the result of my writing a letter is that a letter now exists; any other consequences associated with the event are pragmatic inferences, and have nothing to do with the meaning of the perfect form.

- (13) a.*They have married yesterday.
b.*Mary has left at six.

Moens and Steedman claim that most of the consequences of events are *independent* of the specific time at which the event occurred, but that if a certain situation is a consequence of an event taking place at a particular time, then the perfect may be used to describe that event, as in (14):

- (14) They have married on Friday the 13th!

The point is that (14) could be uttered by a superstitious person who attaches special significance to the date Friday the 13th. However, Moens and Steedman claim that the person could not utter (13a) on Saturday the 14th for this sentence fails to give the crucial information about the date, and would therefore flout Grice's maxim of quantity.

Moens and Steedman also claim that their proposal explains why the mirror image of the perfect, the futurate progressive, can occur with adverbials specifying a definite time. The basic meaning of the futurate progressive is that it refers to the preparatory phase of some future event. Consider the examples in (15):

- (15) a. John is leaving (tomorrow).
b.*John has left (yesterday).

According to Moens and Steedman, the difference between (15a) and (15b) lies in the differing nature of the preparatory and consequent states, rather than in the aspects themselves. In both (15a) and (15b) the adverbial refers to the event of leaving rather than to the present time. Thus (15a) describes the preparations for *leaving tomorrow* (as opposed to some other time), while (15b) refers to the consequences of *leaving yesterday*, as opposed to some other time. However, as was mentioned above, most consequences of events are *independent* of absolute time; hence, Moens and Steedman argue, it is difficult to think of consequences associated with John's leaving yesterday as opposed to those associated with John's leaving generally. By contrast, the preparatory process associated with John's leaving tomorrow is very different from that associated with John's leaving next week.

Moens and Steedman then claim that their approach has the advantage that it allows us to associate the perfect with only one temporal meaning; the different kinds of Perfects ('current relevance', 'hot news', 'result', etc.) are nothing but different kinds of consequent states.

King (1984) is another Basic Meaning Theorist; according to him, the notion of **orientation** accounts for all the various (contextual) uses of the perfect tense. King

claims that the speaker uses the semantic notion of tense to associate a situation with a particular temporal perspective, while the semantic notion of orientation allows the speaker to express an ordering relationship for the situation. The speaker can choose to view the situation either as lacking any point of orientation, in which case the form used has **nonanterior** meaning, or the situation may be viewed as being **anterior** with respect to another situation. Specifically, the present perfect form is oriented in the present in the sense that it is anterior to the TOC (Time Of Communication). The simple past, by contrast, lacks any point of orientation, merely exhibiting past temporal perspective. Consider the following examples:

- (16) a. Did you go out with Mary?
b. Have you gone out with Mary?

(16a) asks simply if the situation obtained at some unspecified time in the past, while (16b) asks if the situation has obtained by the TOC, i.e. is it true that on at least one occasion in the distant or recent past, you ever went out with Mary. Note that in some cases there is little difference between the *actual* situations to which the two forms refer. So in (16) both forms can refer to a very recent event, but despite this the difference in meaning between the present perfect and the simple past remains constant (anterior vs. nonanterior in orientation).

King further claims that the perfect form does not tell us whether the situation continues into the present; it simply conveys the information that the situation is measured up to the present time. Of course, the context sometimes makes it clear that the situation continues into the present, as in (17a), or conversely, that the situation is no longer valid, as in (17b):

- (17) a. We have lived in this town for 13 years/since 1966.
b. We have lived in Europe, Asia, Africa; it's nice to be back in the States.

The crucial fact is, however, that in both cases the present perfect measures the validity of the situation up to the TOC.

Finally, King argues a temporal adverbial occurring with the present perfect must allow the point of orientation to be the TOC; thus, the reason why sentences like (13) are unacceptable is that the adverbials *yesterday* and *at six* cut the situation off from the present.

5.2.3. Conclusion

The Basic Meaning Theory is certainly very appealing; instead of talking about all the different pragmatically conditioned *uses* of the English progressive and perfect forms, we can isolate their basic meaning. Thus, the progressive focuses on the middle of the situation, whether the situation represents an event, a preparatory process, or e.g. an intention, while the perfect focuses on the consequent state of the event (or is "oriented to the TOC", as King would put it).

It is nevertheless useful to make absolutely clear what we mean by the notions of 'reference time', 'preparatory process', and 'consequent state' when discussing the progressive and the perfect with the different situation types. Let's first take the progressive form. We have already established that the past progressive is a nonautonomous tense; hence, the event it refers to cannot be localised directly, but has to be localised via its reference point (cf. the discussion in Chapter Two). Consider now the following:

- (18) a. Mary was writing a letter when we arrived.
b. Mary was leaving when we arrived.

In both (18a) and (18b), the reference point (RT), which is provided by the *when*-clause, is located in the middle of a situation (ET), i.e. $RT \subseteq ET$. The difference between the two sentences lies in the notion of 'preparatory process'. In the former case, the term 'preparatory' process is a misnomer since the process referred to by the progressive is part of the event structure proper, consisting of a beginning, middle and end. (Note that a preparatory process associated with e.g. writing the letter would consist of events like pulling out the chair, sitting down at the desk, and looking for a pen and paper). In the case of culminations, such as leaving, the notion of 'preparatory' process is appropriate, and consists of events like putting on a coat and saying goodbye. However, these preparations cannot be regarded as forming part of the semantics of the predicate, but are purely pragmatically determined.

There is another use of the progressive which has to be distinguished from the two illustrated by (18):

- (19) (When we arrived) at 5, Mary was leaving at 6,
(but she changed her mind later,
and stayed till 7).

It is important to note that (19) cannot be represented in the same way as the sentences in (18) since both the event of leaving, as well as the RT are localised overtly (by *at 6* and *at 5*, respectively). So at the very least we have to acknowledge that sentences like (19) require two levels of representation, one accounting for the

Progressive aspect ($\underline{RT} \subseteq \underline{ET}$, where ET refers to Mary's intentions in W_0 , and $RT = 5$), and the other accounting for Potential modality (W_0 precedes W_1 , and $ET = 6$ in W_1) (cf. the representations in (4) in Section 5.1.).

I propose then that we need to identify three different types of situation (or levels of description) associated with the progressive sentences:

1. Semantic
2. Pragmatic
3. Modal

Progressive sentences describing culminated processes, such as *Mary was writing a letter*, exemplify the semantic level; the pragmatic level is exemplified by culmination sentences, such as *Mary was reaching the top*, which are associated with a preparatory phase, and finally sentences like *Mary was leaving that evening*, or *Mary was writing the letter later* can be said to involve the 'Modal Progressive'.⁵

It is true that although the distinction between the semantic and pragmatic levels is conceptually clear, in practice it is rather fluid. For one thing, in both cases the progressive sentence refers to a concrete, observable process taking place in the actual world. The modal level is different: the event referred to by the lexical verb is not occurring in the actual world, but in some alternative (future) world, and it is the subject's plans and intentions that constitute the 'preparatory' process taking place in the present world.

The three meanings of the progressive form can be represented as follows:

- (20)
- | | | |
|---------------|---------------|--------|
| 1. Semantic: | [///RT//] | |
| 2. Pragmatic: | (//RT///[| |
| 3. Modal: | W0: [///RT//] | W1: [] |

where [////] denotes an event with an internal structure (beginning, middle and end); [] denotes an event whose internal structure is not relevant to the analysis, and (/// denotes a preparatory process. (20.1) can then be used to represent the progressive sentence in (18a), (20.2) is an appropriate representation for (18b), and (20.3) for (19).

Another thing to note is that, as was pointed out in Chapter Three, the

⁵As we have seen, points (and transitions) in the progressive have an iterative interpretation. It is not possible to associate them with a 'preparatory' phase, or talk about the 'middle' of a situation, since the situations they describe are not inherently bounded.

progressive form tells us nothing about the completion/termination of an event; hence, we may, or may not, assume that a progressive event is ultimately completed. However, with the possible exception of sentences like *Max is winning the race*, these assumptions do not play a crucial role in the interpretation of a progressive sentence; what is important is that the situation is *presented* as being in progress. My claim is, therefore, that both Bartsch's (Bartsch, 1985), and Nakhimovsky's (Nakhimovsky, 1988) progressive rules are inappropriate: it is not necessary to refer to either 'intentions', as Bartsch does, or to 'default reasoning', as Nakhimovsky suggests.

As for the Prospective aspect, it is similar to the Pragmatic Progressive in that the RT lies outside the event itself. There are two differences, however. First, in the case of Prospective aspect, we cannot talk about a preparatory process since the prospective forms can denote unintentional events, as in *He was on the point of falling*. Second, Prospective aspect has a definite connotation of imminence which may be absent from meaning of the Pragmatic Progressive. Thus, Prospective aspect can be represented as follows:

(21) Prosp: RT[]

Now we can invoke the same analysis for the perfect, i.e. we can separate the following three cases:

(22) 1. Semantic: []/RT//]
 2. Pragmatic: [] //RT//)
 3. Modal: W1: [] W0: [///RT///]

where } denotes a right-bound, and ///) a consequent state. Thus, as well as distinguishing semantic and pragmatic preparatory processes, we may also wish to identify two kinds of *consequent* states associated with the perfect tense: semantic (part of the meaning of the predicate, represented by (22.1)) and pragmatic (inferred from context, represented by (22.2)). The former refers to consequences such as the existence of a letter, resulting from a telic writing process, while the latter refers to the pragmatically determined consequences associated with atelic processes, such as walking and working.

However, although it is possible (at least in principle) to distinguish these two types of consequent phase, unlike Moens and Steedman, I do not accept that it is possible to classify *predicates* according to whether they can be associated with *relevant* consequences or not. What I claim is that *all* perfect sentences are associated with consequences; hence the following are perfectly acceptable in certain situations:

- (23) a. The star has twinkled.
 b. Mary has drunk tea.
 c. I have worked.

Undoubtedly, the sentences in (23) require more processing than sentences involving telic activities; however, whether these consequences are relevant to the discourse or not, cannot be determined *a priori*.⁶

The Ablative is the mirror image of the Prospective: it has the connotation of recentness, but the RT is located after the event:

- (24) Abl: []RT

As we have seen, there is no distinct ablative form in English; instead, the English perfect can in certain contexts be used to express Ablative aspect.

Strictly speaking, English also lacks the modal meaning of the perfect since this form cannot occur with definite time adverbials (cf. (22.3) above). It should be noted, however, that the connotation of inference is often present as the perfect can be used to infer an event from the present state, or to report second-hand information. Moreover, the unacceptability of the present perfect with definite time adverbials is an idiosyncrasy of English. It is clear, therefore, that Moens and Steedman's stipulation that the consequences of an event are independent of absolute time is overly strict: in some circumstances the time at which the event occurred has important consequences for the present situation, and this is reflected in the use of the perfect in e.g. Finnish (cf. Section 5.3.2. below).

King's theory also fails to explain why adverbials occurring with the perfect cannot cut the situation off from the present perspective, while those occurring with the progressive form can. King claims that despite the posterior adverbial *tomorrow*, *He is leaving tomorrow* is viewed from the present perspective in the sense that the future event is "pulled into the TOC", but he fails to explain why the past event in *He has left yesterday* cannot similarly be pulled into the present perspective, (which indeed happens in Finnish).

⁶One reason why sentences like (23) sound odd is that in English the perfect progressive form is preferable to the the simple perfect even when the process is clearly over, as in the following:

- a. You've been drinking.
 b. She has been crying.

However, the oddity of the simple perfect form in (23) has to do with the fact that the progressive form is often used in English when the reference is to a process, rather than with the inherent aspectual class of the verb. (-conseq). Thus, the corresponding simple perfect sentences are acceptable in appropriate conditions.

Furthermore, some remarks are in order regarding the difference between the Inclusive and the Retrospective Perfects. First of all, it seems to me that the discussion in Chapter Three about the simple past and completion/termination is relevant here as well: stative sentences in the simple perfect behave somewhat differently from the corresponding nonstative ones.⁷ Consider (25) in this respect:

- (25) a. He has been ill (since Christmas).
b. He has written a letter.

We can say that (25a) expresses Inclusive aspect, the boundary adverbial *since Christmas* marking the left-bound for the state, while (25b) expresses Retrospective aspect. Note that the progressive perfect can also be used to express Inclusive Perfect, as in (26):

- (26) John has been writing a letter (since lunchtime).

Furthermore, stative and progressive perfect sentences can be right-bounded by a FOR-phrase, as in (27 a) and (b). These sorts of sentences are presented as referring to a terminated situation; i.e. they are Retrospective in aspect. By contrast, simple perfect sentences involving a motional predicate cannot occur with a FOR-adverbial; hence, the ungrammaticality of (27c) and (d):

- (27) a. John has been ill for two days.
b. John has been writing a letter for ten minutes.
c.*John has written a letter for an hour.
d.*John has walked to the station for two minutes.

Thus, I disagree with King's claim that the perfect form never tells us whether the situation continues into the present: Retrospective sentences like *John has written a letter* are interpreted as being unambiguously completive. What is more, in the presence of the boundary adverbial, sentences like (25a) and (26) are interpreted as referring to an ongoing situation, although without such an adverbial the sentences are, of course, vague with respect to termination.

It is clear that the Inclusive Present is a type of *Progressive* aspect,⁸ and the two meanings of the perfect can then be represented as follows:

⁷Strictly speaking, the relevant distinction in this connection is that between motional and nonmotional sentences since sentences involving a *nonmotional dynamic* predicate also express Inclusive Present:

He has stood/sat/rested in the corner (since the morning).

⁸In fact, languages such as French and Dutch use a simple present tense to express Inclusive Present:

- a. Elle est malade depuis hier.
she is ill since yesterday
'She has been ill since yesterday.'
- b. Ze woont sinds twintig jaar in Amsterdam.
she lives since twenty years in Amsterdam
'She has lived/been living in Amsterdam for twenty years.'

- (28) Retrospective: []//RT//]
 Inclusive: [{////////RT//////// }

where } indicates the right-bound, characteristic of the Retrospective meaning, and { the left-bound associated with the Inclusive Perfect, which can be expressed overtly by SINCE-adverbials, as in (25a).

5.3. Mood and Aspect in Finnish

5.3.1. The Inf5, Iness3 and Prospective Aspect

It was already mentioned in Chapter Four (Section 4.3.3.) that Iness3 cannot be used to refer to the (pragmatic) preparatory process associated with punctual predicates. In other words, it can only be used with durative predicates, in which case it has the Semantic Progressive meaning. If we wish to express imminent futurity, i.e. Prospective meaning, we can use the 5th Infinitival construction (Inf5), which consists of the punctuality marker *ai*, the adessive marker *lla*⁹, and the possessive suffix, so it corresponds roughly to the *to be on the point of* or *be about to* expressions in English. Consider the following examples:

- (29) a. Vanha mies oli *kuolemassa/kuolemaisillaan.
 old man was die (*INESS3)/INF5
- b. Mies oli *hukkumassa/hukkumaisillaan.
 man was drown (*INESS3)/INF5
- c. Bussi oli *pysähtymässä/pysähtymäisillään
 bus was stop (*INESS3)/INF5
- d. Pekka oli *saavuttamassa huippua/
 saavuttamaisillaan huipun.
 Pekka was reach (*INESS3) top (PART)/
 reach (INF5) top (ACC)
- e. Marja oli *voittamassa kilpailua/
 voittamaisillaan kilpailun.
 Marja was win (*INESS3) race (PART)/
 win (INF5) race (ACC)

We cannot use the progressive in the English translations; rather, the appropriate translation for e.g. (29a) would be 'The old man was on the point of dying'.

⁹It is interesting to note that the adessive indicates location on the *surface* of an object, so e.g. *talolla* means 'at/by/near the house', and *poydalla* means 'on the table'. The inessive, by contrast, indicates location *inside* an object: e.g. *talossa* translates as 'in(side) a house' (cf. the use of the Iness3 construction.)

Now it is interesting to note that the Inf5 construction is infelicitous with predicates referring to durative activities. Compare (30) and (31) in this respect:

- (30) a. Marja oli avaamaisillaan oven.
Marja was open (INF5) door (ACC)
- b. Liisa oli katkaisemaisillaan oksan.
Liisa was break (INF5) branch (ACC)
- c. Tiina oli poimimaisillaan kukan.
Tiina was pick (INF5) flower (ACC)
- (31) a. !Marja oli kirjoittamaisillaan kirjeen.
Marja was write (INF5) letter (ACC)
- b. !Matti oli laittamaisillaan päivällisen.
Matti was prepare (INF5) dinner (ACC)
- c. !Leena oli siivoamaisillaan olohuoneen.
Leena was clean (INF5) living room (ACC)
- d. !Mikko oli juoksemaisillaan kaupalle.
Mikko was run (INF5) shop (ALLAT)

The sentences in (31), unlike those in (30) are decidedly odd. The reason is that the Inf5 construction refers to a situation where the subject is located one step away from the event or state described by the main verb. Consequently, the Inf5 cannot be combined with a durative event, which requires the subject to take several steps before the event is completed (cf. the discussion in Chapter Three (Section 3.3.4.) regarding border crossings vs. extended journeys).

If we wish to refer to the beginning or the end of an activity, we have to use a different verb, so (31a) could be paraphrased as (32a) or (32b):

- (32) a. Marja oli aloittamaisillaan kirjeen.
Marja was begin (INF5) letter (ACC)
'Marja was about to begin the letter.'
- b. Marja oli saamaisillaan kirjeen valmiiksi.
Marja was get (INF5) letter (ACC) ready (TRANSL)
'Marja was about to finish the letter.'

Another way of expressing Prospective aspect is to use the Iness3 form with a bounded object (i.e. one in the accusative case), as in (33) (This example is from Markkanen, 1979:71):

- (33) a. Näillä hetkillä ensimmäiset joukot
 These moments (ADESS) first troops
 ovat saamassa käskyn marssia.
 are get (INF5) order (ACC) march
 'At this moment, the first troops
 are about to get an order to march.'
- b. Liisa oli saavuttamassa huipun kun...
 Liisa was reach (INF5) top (ACC) when ...
 'Liisa was on the point of reaching the top when ...'
- c. Matti on (juuri) voittamassa kilpailun.
 Matti is (just) win (INESS3) race (ACC)
 'Matti is just about to win the race.'

This construction, too, is possible only with punctual predicates; hence, the oddity of (34):

- (34) a. !Marja on tekemässä tutkimuksen.
 Marja is do (INESS3) survey (ACC)
- b. !Marja on valmistamassa päivällisen.
 Marja is prepare (INESS3) dinner (ACC)

Again, if we wish to refer to the initial stages of e.g. the survey (cf. (34a)) we must express this explicitly using the verb *aloittaa* ('start'), as in (35):

- (35) Marja on aloittamassa tutkimuksen.
 Marja is start (INESS3) survey (ACC)
 'Marja is about to start a survey.'

In fact, the verbs *aloittaa* ('start') and *lopettaa* ('finish') can refer to both durative and punctual situations. Consider the following examples, which are from Markkanen, 1979:70:

- (36) a. Työterveyslaitos on aloittamassa laajaa
 work_health_institute is start (INESS3) extensive
 suomalaisten pituuden mittauksista.
 Finns (GEN) height (GEN) measurement (PART)
- b. Työterveyslaitos on aloittamassa laajan
 work_health_institute is start (INESS3) extensive
 suomalaisten pituuden mittauksen.
 Finns (GEN) height (GEN) measurement (ACC)

(36a) translates as 'The work and health institute is starting (preparations for) an extensive measurement of the height of the Finns', while (36b) translates as 'The work and health institute is about to start an extensive measurement of the Finns'. Thus, the (a)-sentence views the measuring exercise from inside, expressing Progressive aspect, while the (b)-sentence views it from outside, expressing Prospective aspect.

It is important to note that the Inf5 is an aspect, and not a potential mood. Thus,

if Prospective sentences, such as those in (37), contain a time adverbial, this refers to RT, not ET.

- (37) a. Matti oli hukkumaisillaan kahdelta.
Matti was drown (INF5) two (ABL)
'Matti was on the point of drowning at 2 o'clock.'
- b. He olivat saamassa käskyn marssia kahdelta.
They were get (INF5) order march two (ABL)
'At 2 o'clock, they were about to get
an order to march.'

Kahdelta does *not* locate the prospective event itself, but it locates another event not explicitly mentioned, which serves as antecedent for the Inf5 sentence.

There is one construction in Finnish which has the three meanings discussed above: Progressive, Prospective and Potential mood. This is the inessive case of a deverbal noun based on a small number of motion verbs such as *tulla* ('come'), *mennä* ('go') and *lahtea* ('leave'). Consider the following examples:

- (38) a. Laiva on tulossa satamaan.
boat is coming (INESS) harbour (ILLAT)
- b. Oletko sinä tulossa tänä iltana?
Are-whether you coming (INESS) this night (ESS)

(38a) can mean either 'The boat is about to enter the harbour' or 'The boat is approaching the harbour', while (38b), because of the time adverbial *tänä iltana* ('tonight'), can only have the meaning 'Are you planning/intending to come tonight', i.e. the modal interpretation.¹⁰

5.3.2. The Present Perfect - Mood or Aspect?

The first thing to note is that unlike e.g. in French and German, the present perfect is *not* a narrative tense in either English or Finnish. This does not mean, however, that the present perfect form behaves identically in the two languages. One difference is that the Finnish present perfect can be combined with adverbials specifying a definite point in the past. In another respect, however, the use of the

¹⁰There is a distinct potential form in Finnish, which is exemplified by the following sentences:

- a. En tiedä kuka tuo mies lienee.
I don'tknow who that man be (POT)
'I don't know who that man might be.'
- b. Inflaatio jäänee alle viimevuotisen, TTT ennustaa.
inflation stay (POT) below last-year (GEN) TTT predicts.
'Inflation will remain below last year's figures, the TTT predicts.'

(The example in (b) is from Hakulinen and Karlsson (1988)). However, the potential is a literary form, and rare in Modern Finnish.

Finnish present perfect is more restricted than that of the corresponding English form; specifically, in some cases it can generally be only used to refer to situations which are viewed by the speaker as being somehow distant from the present time.

As to the first difference, consider the example in (39):

- (39) a. He ovat menneet eilen naimisiin.
'They have married yesterday'¹¹
- b. He ovat lähteneet kahdeksalta.
'They have left at eight.'

As we have already mentioned, the unacceptability of the perfect form with adverbials referring to a specific point in the past is just an idiosyncrasy of English. In Finnish, sentences like (39) do not require a special context in order to be felicitous; indeed, in some contexts, the time specifier cannot be omitted without violating Grice's maxim of quantity (or relevance). Consider, for example, the following scenario. Mikko and Ville are waiting for Marja, who is late. Mikko rings Marja's flatmate to find out what time they can expect Marja to arrive, and then reports the following to Ville:

- (40) Marja on lähtenyt kahdeksalta (joten hänen pitäisi olla täällä 10 minuutin päästä)
'Mary has left at eight (so she should be here in 10 minutes)'

It is clear that in this particular context, the present perfect would be infelicitous without the time-specifier.¹²

What precisely is then the basic meaning of the Finnish present perfect, which distinguishes it from the simple past form? Consider the following examples:

- (41) a. Viime yönä on satanut/satoi.
'Last night it has rained/rained.'
- b. Sisareni on syntynyt/syntyi vuonna 1947.
'My sister has been born/was born in 1947.'
- c. Tämä koulu on perustettu/perustettiin 100 vuotta sitten.
'This school has been founded/was founded 100 years ago.'

¹¹The literal translation of (16a) is 'They are having-gone yesterday married' as the Finnish perfect is formed by combining the auxiliary *olla* ('be'), and a past participle. I have given translations, rather than glosses, for the Finnish perfect sentences, except where the precise grammatical form of a word is directly relevant to the argument.

¹²The same argument, of course, applies to the use of the futurate progressive: in some cases, the precise time of the future event has to be specified, while in others it is completely irrelevant. For instance, if Mary is about to walk out on John, his utterance *She's leaving me!* conveys all the essential information.

According to Markkanen (1979:130) the perfect sentence in (41a) could be uttered in the morning when noticing that the ground is wet, while the corresponding simple past sentence informs the hearer about rain that disturbed the speaker's sleep during the night. (41b) could be uttered when telling how old the speaker's sister is at present, and the simple past sentence could occur in the sister's biography or obituary. Similarly, (41c) can be used to tell how old the school is, and the past tense in telling the history of the school.

Markkanen assumes that the notion of 'current relevance' could serve as an explanation for the choice of the present perfect in all the sentences in (41). There is, however, another way of accounting for its use: it could be argued that the speaker chooses the present perfect form when placing (psychological) distance between the past event and the present moment. **Inferential** meaning represents one strand of the modal notion of 'distance'. Indeed, Markkanen herself points out that in certain cases the Finnish perfect has an Inferential meaning, discussing the following example (This example is from Ikola, 1961, via Markkanen, 1979:

- (42) Johdumme täten kysymykseen mistä Agricolalla oli suomen kielen taitonsa. Joko se on täytynyt olla hänen äidinkiellensä tai hän on sen myöhemmin oppinut.

'Thus we come to the question how Agricola acquired his knowledge of Finnish. Either it must have been his mother tongue, or he has learned it later.'

(Note the use of the modal verb *must* in the English translation.)¹³

In the above case, the speaker has no immediate knowledge of the past event but s/he draws an *inference* about it on the basis of some present facts. Another related use of the present perfect involves the speaker telling something that is not based on knowledge but on **hearsay** (second-hand information) (from Ikola, 1961):

- (43) Kerran on elänyt ukko ja akka.
'Once upon a time has lived an old man and an old woman.'

Comrie (1976) and Dahl (1985), too, have pointed out that the perfect form is in many languages both Perfect and Inferential in meaning.¹⁴ In other words, the

¹³Indeed, overt time specification is possible with the English perfect, too, if it is part of a nonfinite construction involving a modal verb, as in *He may have left at six*. Comrie (1976:55) claims that such constructions do not have a perfect meaning, so the above is paraphrasable as 'It is possible that he left at six'.

¹⁴Comrie (1976) reports that this close relation between the perfect and the inferential is especially common in Turkic and Uralic languages.

perfect can be used to indicate that the speaker is reporting some event that he has not himself witnessed, but about whose occurrence he has learnt at second hand: either somebody else has told him about the occurrence of the event, or the speaker has inferred it on the basis of the present situation. (Note that in either case the speaker does not necessarily doubt the reliability of the information). Thus, the similarity between the Perfect and the Inferential meaning can be explained by the fact that both focus on the present state resulting from a past situation; the only difference is that in the former case, the speaker *asserts* the truth of a proposition, (i.e. expresses "unqualified epistemic commitment"), while in the latter case the speaker makes a judgement about the *possibility* that something is/is not the case. In other words, the difference is one of modality.

There is another Retrospective (i.e. Nonablative) meaning associated with the Finnish present perfect, viz. the Experiential meaning discussed above. Although the Experiential perfect does not involve the notion of uncertainty, and therefore is not modal in the sense the Inferential perfect is, it too presents the situation as being somehow distant from the current situation. The situation may well have current relevance, but its relation to the present time is less direct than that of the Ablative or the 'Resultative' perfect. For example, Anderson (1973:43) has pointed out that the Non-inclusive present can emphasise either the present or the past references associated with it, so a sentence like *Bernie has arrived* focuses on the present result of the event while *Bernie has visited Portugal* places more importance on the 'pastness' of the event.

In fact, a similar analysis has been suggested by Chung and Timberlake (1985), who argue that mood characterises the actuality of an event by comparing the event world to a reference world, termed **the actual world**. With Indicative mood the event world *is* the actual world. There are then two basic parameters of nonactuality in terms of which the actuality of an event can be described:

(44)

1. Source: (From whose point of view the event is actual/nonactual)

Primary event: Speaker is the source
Secondary event: Subject of matrix clause

2. Target: (Who is responsible for the actuality of event)

I am particularly concerned with the 'epistemological' mode, which evaluates the actuality of an event with respect to a source. Thus, the event may be:

(45)

1. Asserted to be actual: (Indicative mood)
2. Its actuality may be dependent on the Source in one of several ways:
 - Experiential: (The event is characterised as being experienced by the source).
 - Inferential (Evidential): (The event is characterised as being inferred from evidence (source))
 - Quotative: (The event is reported from another source)
 - The event is a construct (thought/belief) of the source.

Thus, the connotation of psychological distance associated with the Finnish perfect can be said to arise from the fact that the event is not asserted to have taken place in the actual world: specifically, the perfect has the Experiential, Inferential, or Quotative meanings listed in (45).

This connotation of uncertainty associated with the Finnish perfect places certain constraints on its use. Specifically, it cannot be used to refer to a recent event which has been witnessed by the speaker. Consider again the coffee-spilling incident discussed in connection with Moens and Steedman (cf. example (11) above). The Finnish perfect cannot be used to describe this situation, but the past tense has to be used instead:

- (46) a. #Minulta on kaatunut kahvi.
'I have spilled my coffee'
- b. Minulta kaatui kahvi.
'I spilled my coffee'

(46a) is, of course, perfectly grammatical, but is inappropriate in the circumstances. It can only be uttered if the speaker has failed to notice the spilling of the coffee at the time it occurred; for instance, because s/he was so absorbed in a book ('Look, there are stains on my shirt - I must have spilled my coffee!').¹⁵

Consider, too, the following example:

- (47) Olen pistänyt kirjoitelmani pöydällesi.
'I have put my essay on your desk.'

Again, (47) is not ungrammatical, but it is a rather odd thing to say unless the

¹⁵(46a) could also have an Experiential meaning ('I've spilled my coffee at least once in my life'), although it is a highly unlikely interpretation in this particular context.

action is performed in some sort of a trance (for instance, it can have the meaning: 'Oh, look, my essay is on your desk: I must have put it there while sleepwalking ...').

(46) and (47) describe an event which the speaker infers on the basis of present facts. The sentences in (48) exemplify a slightly different use of the Inferential perfect, viz. the Hearsay meaning. Let's return to the scenario described in (40). When talking to Mikko on the phone, Marja's flatmate has to use the simple past (48a) if she actually saw Mary leave, while Mikko is likely to use the present perfect when reporting this second-hand information to Ville (48b):

- (48) a. Marja lähti/?on lähtenyt kahdeksalta.
'Mary left/has left at eight.'
b. Marja on lähtenyt/?lähti kahdeksalta.
'Mary has left/left at eight.'

(Note that (48b) can be glossed as 'Apparently, Mary left at 8').¹⁶

Another thing to note is that it is often difficult to tell apart the Resultative and Inferential readings of the perfect since both focus on the present state resulting from a past situation. This is why the Finnish present perfect can be used in cases where the speaker refers to a (possible) event involving somebody else, and not the speaker her/himself; i.e. when s/he infers the past event from present facts. Consider the examples in (49):

- (49) a. Marja on pistänyt kirjansa pöydällesi.
'Mary has put her book on your desk.'
b. Joltain on kaatunut kahvi.
'Somebody has spilt their coffee.'

Note that in the corresponding English translations, the perfect form on its own is sufficient to convey the information provided by the Finnish sentences since the perfect may have modal connotations. Strictly speaking, though, (49a) means 'Mary appears to have put her book on your desk/I hear that Mary has put her book on your desk', and (49b) means 'Someone appears to have spilled their coffee'.

¹⁶Markkanen (1979), too, points out that the simple past is preferred when referring to 'acute' cases; hence, (a) is preferable to (b):

- a. Sain haavan sormeeni.
'I cut my finger.'
b. Olen saanut haavan sormeeni.
'I have cut my finger.'

Her explanation is that the past tense sentences are more definite (hence preferred in acute cases), while the perfect sentences are indefinite. However, she does not relate this notion of in/definiteness to the more general Inferential meaning characteristic of the Finnish perfect, thereby failing to provide a general account of the use of this form.

It seems then that the Finnish perfect is modal (nonindicative) in nature as it can be combined with a definite time adverbial localising the ET, not the RT. In other words, it is used to refer to events that are somehow conceived of as being distant from the present moment, while the simple past is used to express nonmodal (neutral) past.

However, in certain situations the perfect can also have Ablative meaning, referring to a recent past. This kind of Perfect is aspectual in nature, and may be neutral with respect to mood. First of all, the Ablative reading is possible if the perfect form combines with a culmination expression, as in (50):

- (50) a. He ovat (juuri) saavuttaneet huipun.
 'They have (just) reached the top.'
- b. Marja on (juuri) voittanut kilpailun.
 'Mary has (just) won the race.'
- c. Pekka on juuri lähtenyt.
 'Pekka has just left.'

In (50) the perfect refers to the state immediately following the culmination of the process, lexicalised by *saavuttaa*, *voittaa*, and *lähtea*, respectively.

Furthermore, in examples like (51), we can use the perfect form of the verb *tulla* ('come') to express ablative meaning (cf. the French *venir de* expression):

- (51) a. Olin juuri tullut saunasta/Lontoosta
 kun he saapuivat.
 I was just come sauna/London (ELAT)
 when they arrived.
 'I had just come from the sauna/London
 when they arrived.'
- b. Olen tullut juuri uimasta.
 I am come just swim (ELAT3)
 'I've just had a swim.'
- c. Olen juuri tullut syömästä.
 I am just come eat (ELAT3)
 'I have just eaten.'

The sentences in (51) all describe some kind of a *location*: (a) refers to a concrete place, and (b) and (c) to an activity associated with a specific locality (cf. the use of the Iness3 discussed in Chapter Four, Section 4.3.3.). In all these cases, the perfect is used to refer to the point immediately following the subject's exit from the (abstract or concrete) location described by the main verb.

As was pointed out above, the perfect is considered to have an *aspectual* meaning in sentences like (51); thus, for instance, the *when*-clause in (51a) is assumed to localise the RT of the perfect sentence. It is further assumed that the perfect has no inferential overtones even when referring to the speaker, as in (51b) and (51c).

Moreover, the Ablative reading is unacceptable with durative predicates, as in the following:

- (52) a. !Marja on (juuri) kävellyt metsän halki.
'Marja has (just) walked through the forest.'
- b. !Marja on (juuri) kirjoittanut kolme runoa.
'Marja has (just) written three poems.'
- c. !Pekka on juuri matkustanut Lontoosta Helsinkiin.
'Pekka has just travelled from London to Helsinki.'

This is because with the Ablative, reference is to the precise moment following the exit from the situation, but, as has been pointed out earlier, with durative predicates the whole event is focused upon.

5.3.3. *The Inclusive Perfect*

So far I have discussed the Retrospective meaning of the perfect form, ignoring the Inclusive perfect meaning mentioned above.

As we have seen, in Finnish the aspectual perspective of the sentence is mainly determined by the case marking of the object NP. Thus, generally speaking, the sentence is perfective if the object is put in the accusative case, and imperfective if it is in the partitive case.¹⁷ Consider now the following examples:

- (53) a. Tiina on kirjoittanut kirjeen.
Tiina is written letter (ACC)
'Tiina has written a letter.'
- b. Tiina on kirjoittanut kirjettä.
Tiina is written letter (PART)
'Tiina has been writing a letter.'

The accusative object in (53a) indicates that the sentence is Retrospective in aspect, while the partitive object in (53b) signifies that the sentence expresses Inclusive present meaning. It should be noted, however, that (53a), too, is imperfective as it refers to the state resulting from the past event denoted by the lexical verb. Thus, when discussing the accusative-partitive opposition in relation to aspectual distinctions, we have to take into account not only notions such as termination, but also the notion of *event structure*: if the focus falls outside the event, as in (53a), the accusative is used; if the focus falls inside the event proper, the partitive is used, as in (53b).

¹⁷This is only a very general rule; as we saw in Chapter Four, the partitive-accusative opposition can denote other semantic distinctions as well. However, I shall ignore these further complications in this section.

The situation is slightly more complicated with respect to atelic sentences. Consider the examples in (54):

- (54) a. Jussi on työskennellyt.
'John has worked.'
b. Marja on kävellyt.
'Mary has walked.'
- (55) a. Jussi on ollut sairaana.
'Jussi has been ill.'
b. Jussi on ollut Lontoossa.
'Jussi has been in London.'

Sentences like (54) are perfectly acceptable if the situation described is right-bounded by the context, e.g. if the speaker infers the past event on the basis of some present facts (so (54a) could mean: 'Jussi looks exhausted - he must have been working'). Note that the default reading for (54) is completive and for (55) incompletive.¹⁸ The difference between (54) and (55) can be attributed to the fact that the former involves motional predicates, and the latter nonmotional ones. (This point relates to the discussion in Chapter Three regarding the default readings for activity and state sentences).

Finnish perfect sentences can also be right-bounded by a FOR-adverbial, as in (56a), which exemplifies Retrospective aspect. By contrast, boundary (SINCE) adverbials provide a *left*-bound for the ongoing situation, in which case the perfect has the Inclusive Present meaning, as in (56b) and (c):

- (56) a. Jussi on kirjoittanut (kirjettä) tunnin.
Jussi is written letter (PART) hour (ACC)
'Jussi has been writing a letter for an hour'.
b. Liisa on kirjoittanut kirjettä
aamusta saakka.
Liisa is written letter (PART)
morning since
'Liisa has been writing the letter
since the morning.'
b. He ovat asuneet Lontoossa syyskuusta lähtien.
'They have lived in London since September.'

There is a parallel between the Ablative and Prospective aspects on one hand, and Inclusive and Progressive aspects on the other. Consider the following examples:

¹⁸Of course, we may obtain an incompletive reading by adding e.g. a durative adverbial, as in *Jussi on työskennellyt aamusta saakka* ('Jussi has been working since the morning'), which clearly refers to a continuous situation. Also, *Jussi on ollut Lontoossa kerran* ('Jussi has been to London once') clearly refers to a terminated situation.

- (57) a. Mikko on aloittamassa kirjeen.
 Mikko is begin (INESS3) letter (ACC)
 'Mikko is about to start (writing) the letter.'
- b. Mikko on aloittamassa kirjettä.
 Mikko is begin (INESS3) letter (ACC)
 'Mikko is beginning the letter.'
- (58) a. Mikko on (juuri) tullut Lontoosta.
 'Mikko is (just) come (PP) London (ELAT).'
- b. Mikko on kirjoittanut kirjettä (kahdesta lähtien).
 Mikko is written letter (PART) (since two)
 'Mikko has been writing the letter since two.'

Both Prospective (57a) and Ablative (58a) have a completive interpretation, placing the subject outside the event in question, (just before and just after it, respectively), while Progressive and Inclusive aspects place the subject inside the event (cf. (57b) and (58b)). However, since all four express location, they can be said to be Imperfective.

5.3.4. Conclusion

We can now summarise the meanings associated with the various Finnish aspectual operators as follows:

- (59) 1. Progressive: INESS3 + PART; SP + PART
 PERFECT + PART (Inclusive)
 + Non-motion Predicate
2. Prospective: INF5 + ACC
 INESS3 + ACC
3. Retrospective/
 Ablative: PERFECT + ACC/FOR-phrase

As we have seen, there are a number of constraints on the use of these forms. Consider the examples in (60):

- (60) a. Matti kirjoittaa/on kirjoittamassa kirjettä.
 Matti write (SP)/is write (INESS3) letter (PART)
- b. !Matti on kirjoittamassa/
 kirjoittamaisillaan kirjeen.
 Matti is write (INESS3)/
 write (INF5) letter (ACC)
- c. !Matti on saavuttamassa huippua.
 Matti is reach (INESS3) top (PART)
- d. Matti on saavuttamaisillaan/saavuttamassa huipun.
 Matti is reach (INF5)/reach (INESS3) top (ACC)

(60a) can only refer to the middle of the core event, while the Iness3 and Inf5 constructions expressing Prospective aspect are not acceptable with a durative predicate, such as *kirjoittaa kirje* ('write a letter') (60b). As to punctual predicates, these cannot be combined with the Iness3 construction to refer to the middle of an event (60c), but can be used with the Inf5 or the Iness3 + ACC - construction to express Prospective aspect (60d).

Let's consider again the diagrams in (20) and (21), which are repeated here:

- (20) 1. Semantic: [///RT//]
 2. Pragmatic: (//RT//[])
 3. Modal: W0: [///RT//] W1: []

- (21) Prosp: RT[]

We can express Semantic progressive (60a) and Prospective Aspect (60d) in Finnish. However, unlike in English, we cannot use a tense_aspect form to refer to a *pragmatic* preparatory process (60c); instead, we have to use a periphrastic construction, involving verbs such as *aikoa* ('intend'). As for mood, the Iness3 does not express modal distinctions, and the modal use is restricted to a few idiomatic expressions such as *tulossa* ('coming') and *menossa* ('going'). Note further that the Inclusive Present is clearly a kind of Progressive: the difference between (61a) and (61b) is that the former implies a left-bound, i.e. the beginning of the process, while the latter focuses on the middle of the process, without making reference to the beginning (or the end) of the process:

- (61) a. Matti on kirjoittanut kirjettä.
 Matti is written letter (PART)
 'Matti has been writing a/the letter.'
 b. Matti kirjoittaa kirjettä.
 Matti write (SPr) letter (PART)
 'Matti is writing a/the letter.'

As we have seen, the perfect in English can refer to the 'consequent' state of an event, regardless of the lexical verb and the degree of pastness involved. Finnish is stricter in this respect, too, so only punctual expressions can be combined with the perfect form to express Ablative meaning. Therefore, neither (62a) nor (62b), which both contain a durative predicate, can have Ablative meaning:

- (62) a. Olen kävellyt metsän halki.
 'I have walked across the forest.'
 b. Olen kirjoittanut kirjeen.
 'I have written a letter.'

What is more, the Finnish perfect often has a modal connotation. For instance, the sentences in (62) are acceptable only if they have e.g. an Experiential or Inferential meaning.

Consider again the diagrams in (22) and (24), repeated here:

- (22) 1. Semantic: []/RT//]
 2. Pragmatic: [] //RT//)
 3. Modal: W1: [] W0: [///RT///]
- (24) Abl: []RT

It seems that the semantic, pragmatic and modal meanings associated with the Finnish perfect are to a large extent conflated. In other words, since there is no separate inferential form in Finnish, the perfect is used for both aspectual and modal distinctions.¹⁹ The very fact that the same form is used for both suggest a close interrelation between Imperfective aspect and Potential modality. Furthermore, we can say that Finnish partially lexicalises the Ablative meaning, represented by (24).

It seems then that since it is mainly the case marking of the object NP that determines the aspectual perspective of the sentence in Finnish, the semantic type of a predicate, and hence, the notion of event structure, plays a more important role in Finnish than in English. Thus, if the focus is on the middle of the core event, the partitive case is used and the aspect is always Progressive. If the focus falls outside the core event, the accusative case is used, and the aspect is Ablative/Retrospective, or Prospective (or Aorist if the whole of the event is focused on).

In practice this means first of all that more aspectual distinctions are grammaticalised in Finnish than in English; specifically, the Prospective/Progressive and the the Retrospective/Inclusive distinctions are made explicit by the case marking. Second, the use of the Finnish tense and aspect forms is lexically conditioned to a greater extent than that of the English forms; punctual predicates cannot be combined with aspectual operators referring to a middle of a situation; durative predicates cannot combine with aspectual operators referring to a single point.

¹⁹See, too, Slobin and Aksu (1982), who discuss the the interrelations between tense, aspect and mood in the use of the Turkish Evidential (Inferential) form.

5.4. 'RT' revisited

We can now return to the Reichenbachian tripartite system of tenses, which was discussed extensively in Chapter Two. As we have seen, in it tense is represented by the relationship between R and S, while aspect relates E to R. Thus, with present tenses S and R coincide; with past tenses R precedes S, and with future tenses R follows S. As to the aspectual distinctions, with simple aspect, E is simultaneous with R; with perfect (retrospective) aspect, E precedes R, and with prospective aspect, R precedes E. Furthermore, temporal adverbials are assumed to always specify the R, and not the E. Thus, we have the following representations for various tense_aspect constructions discussed in this section:

- (63) a. Aorist: $E = R < S$;
 The simple past: *John left at 6*: $E = R = 6 < S$
- b. Progressive: $E \supset R$;
 The past progressive:
John was leaving at 6: $E \supset R = 6 < S$)
- c. Ablative/Retrospective: $E < R = S$;
 The present perfect: *John has left*: $E < R = S = \text{now}$
- d. Prospective: $R = S > E$;
 The be about to-construction:
John is about to leave (now): $S = R = \text{now} < E$

In Chapter Two, we already noted one instance in which the Reichenbachian system fails to provide an adequate representation of tense meanings. Comrie (1981) among others has shown that a time adverbial does not always refer to the reference point of the sentence, but can also refer to the event itself. This can be seen clearly in the case of the past perfect and the future perfect, where the time adverbial may characterise either R or E. Consider the examples in (64):

- (64) a. He had left at six.
 b. He will have finished at six.

Thus, on the Past Perfect interpretation, (64a) means 'He had already left at six', (where *six* refers to R), while on the Past-in-the-Past reading, it means 'He had left exactly at six' (*six* locates E). Similarly, in (64b) *at six* can have a Future Perfect reading (i.e. it can mean 'By six, I will already have finished', in which case *six* refers to R), or it can have a future-in-the-Past interpretation (i.e. it can be mean 'I will have finished exactly at six', in which case *six* locates E).

We then emphasised the importance of distinguishing R and L: the former refers to an abstract reference point associated with certain complex tenses, and the latter to the localiser of the event time. Since both E and R can be localised overtly,

the following representations seem appropriate for the tenses discussed here:²⁰

- (65) simple past: E, (L) < S
present perfect: E, (L) < R, (L), S
past perfect: E, (L) < R, (L) < S
future perfect: S < R, (L) > E, (L)

The representations in (65) suggest that both E and R can optionally be made explicit. However, the situation is more complicated than this; in particular, it is important to clarify what we mean by the notion of 'R' in each case. Consider the following Finnish examples:

- (66) a. Marja lähti kahdeksalta.
'Marja left at eight.'
- b. Marja on (jo) lähtenyt.
'Marja has (already) left.'
- c. Marja on lähtenyt kahdeksalta.
'Marja has left at eight.'
- d. Marja oli lähtenyt (kun saavuimme) kahdeksalta.
'Marja had left (when we arrived) at eight.'
- e. Marja oli lähtenyt kahdeksalta.
'Marja had left at eight.'
- f. Marja oli lähtenyt kahdeksalta ja kävellyt
rautatieasemalle.
'Marja had left at eight and walked to the
railway station.'

It seems that except when expressing the Ablative meaning, the Finnish present perfect is modal in nature. Moreover, only the Ablative sentences can be assigned the Reichenbachian representation $E \leq R = S$. In the other cases, the 'R' has to be interpreted as representing WO (the actual world), against which the past event is evaluated, or, to be more precise, R refers to the middle of a situation which consists of a subject's inferences drawn from the present situation. This is true for cases like (66b), where reference is made to an indefinite time in the past, as well as for cases like (66c), which refer to a definite past time.

In certain cases, a temporal localiser can be used to refer to the R, which coincides with S, as, for instance, in *Marja on jo lähtenyt nyt* ('Marja has already left now.'). However, even in this sort of case, the sentence has a modal meaning. What is more, the Reichenbachian model cannot account for cases like (66c), in which the event is localised. Therefore, a more accurate representation for the Finnish perfect would be as follows:

²⁰These representations are, of course similar to those offered by Bertinetto (1985), which were discussed in Chapter Two. However, in Bertinetto's system R represents an overt localiser of a reference point, and L an overt localisers of E, while in my system R is an abstract reference point, which, just like E, can be combined with L.

(67) $E_1, (L) < E_0 \supset R, (L) = S$

where E_1 refers to an event in a nonactual world, and E_0 to an event (inferencing process) in the actual world. In other words, a two-level representation is required for the Finnish perfect.

English, of course, behaves differently in this respect; as Comrie (1981) has pointed out, a temporal adverbial occurring with a present perfect cannot encompass E , without referring to S at the same time; hence the unacceptability of *He has arrived at 6*. The adverbial can encompass both E and S , as in *He has arrived this morning*, or it can refer only to S , as in *He has arrived now*. It is not clear to me how the Reichenbachian system could capture these facts.

The *past* perfect behaves somewhat differently to the present perfect. It seems that the difference between the 'past in the past' and 'past perfect' readings is to a large extent neutralised since a past perfect form is always anchored to a (past) reference point. Indeed, sentences like (66e) may have a modal interpretation, i.e. the past perfect event is evaluated against a (past) reference time currently in focus, as in (68):

(68) Löysin lapun puhelimen vierestä:
Marja oli lähtenyt kahdeksalta.
'I found a note by the phone:
Marja had left at eight.'

However, a past perfect sentence may represent a matter of fact statement about a past event, especially when occurring as part of an embedded narrative, as in (66f). Indeed, it was already pointed out in Chapter Two that the past perfect is associated with two distinct functions: it is either used to express backward movement within the main narrative, or it can occur in a sequence of past perfect clauses forming an embedded narrative.

It was also mentioned in Chapter Two that the past perfect is a hybrid tense, i.e. nonautonomous (evaluated with reference to a past GST), but nonanaphoric (capable of specifying a temporal entity). However, we can now see that this analysis applies to the 'Past in the Past' reading alone; strictly speaking, the 'Past Perfect' is a Present in the Past tense; hence, anaphoric. In other words, although it can localise an event (cf. (68)), it refers to the middle of an unterminated situation (an inferencing process); hence, this reading, too, requires a two-level representation similar to the one in (67). (In fact, although the 'Past in the Past' may lack modal connotations, it also refers to a world different from the actual one, which is why it is often difficult to distinguish the two readings).

I also claim that the Reichenbachian system cannot account for the so-called mirror image of the perfect, the futurate progressive, discussed e.g. by Moens and Steedman (1988). Moens and Steedman assume that sentences like *Mary is leaving tomorrow* are represented as $\underline{R}, \underline{S} < \underline{E}$, where *tomorrow* localises R. However, it is clear that this representation can only be assigned to sentences with Prospective aspect. As we have seen, a sentence like *Mary is leaving tomorrow* has a modal meaning, i.e. it is used to refer to a future event, localised by *tomorrow*. This cannot be captured in the Reichenbachian system since in it the adverbial always localises the R.

Consider, too, the example in (19), repeated here:

- (19) (When we arrived) at 5, Mary was leaving at 6,
 (but she changed her mind later,
 and stayed till 7).

Again, we require a two-level representation to account for the Progressive aspect, as well as for the Potential modality, associated with the progressive sentence *Mary was leaving at 6*. I propose, therefore, the following representation for this particular meaning:

- (69) $E1, (L) > E0 \subset R, (L) > S$

In the case of (19), E0 represents the process of intending, which is related to R, localised by *at 5*, whereas E1 represents the potential future event of Mary's leaving (at 6).

As to the interrelations between tense and aspect, the data discussed in this chapter provides further evidence for a clear correlation between present tense and Imperfective aspect on one hand, and past tense and Perfective aspect on the other. Hence, I propose the following characterisations for the various tense_aspect forms:

(70)

A. PRESENT (Imperfective):

Progressive:

*Mary is writing a letter/Mary is ill/Mary has been ill (since Friday).
Marja on kirjoittamassa kirjettä/Marja on sairaana/
Marja on ollut sairaana (perjantaista saakka).*

Ablative/(Retrospective):

*Mary has (just) opened the window/
Marja on (juuri) avannut ikkunan.*

Prospective:

*Mary is about to open the window.
Marja on avaamaisillaan ikkunan.*

B. PAST:

1. Past (Perfective):

*Mary wrote a letter.
Marja kirjoitti kirjeen.*

2. Present in the Past (Past Imperfective):

Progressive:

*Mary was writing a letter/Mary was ill/Mary had been ill (when I saw her).
Marja kirjoitti kirjettä/Marja oli sairaana/Marja oli ollut sairaana (kun näin hänet).*

Ablative/(Retrospective):

*Mary had opened the window when I arrived.
Marja oli avannut ikkunan kun saavuin paikalle.*

Prospective:

*Mary was about to open the window when I walked in.
Marja oli avaamaisillaan ikkunan kun kavelin sisään.*

C. PAST-IN-THE-PAST (2nd level Perfective):

*Mary had got up and gone out.
Marja oli noussut ylös ja mennyt ulos.*

We can then say that the Past tenses (the 'Past', and 'Past in the Past') are autonomous, hence potential narrative-movers, while all the Present tenses are nonautonomous, expressing location at the current reference point.

As for mood, there is clear a correlation between Imperfectivity and modality, in the sense that Perfective sentences tend to be Indicative in mood, while Imperfective sentences often express some sort of Potential modality. Moreover, the difference between mood and aspect is difficult to draw in the case of Imperfective

aspect, which is why the progressive and the perfect forms have both modal and aspectual uses.

Furthermore, in order to assign the various surface tenses to these categories, we have to take into account the inherent predicate type or the aktionsart of the sentence; for instance, *He has been writing* and *He has been ill* belong to the same semantic category (Present). (As we have seen, in Finnish the rules responsible for assigning morpho-syntactic tenses to semantic categories are largely lexically conditioned, while in English pragmatics plays a more important role in the formulation of the rules). Secondly, we cannot account for the three different kinds of Imperfective aspect, the Progressive (Inclusive), Ablative/Retrospective, and Prospective, without having recourse to the notion of 'event structure'

I suggest then that 'RT' should be re-interpreted as the focus of attention, which has relevance to the analysis of aspectually complex sentences. In other words, RT indicates whether the focus is on the middle of the situation, or just before/after it. As for the modal uses, RT represents the reference world, which can be associated with its own ET, and against which the event in the nonactual world is evaluated.²¹

We can then represent the Semantic Tenses discussed here as follows:

- (71)
- | | |
|-------------------------|---------------------------|
| A. PAST: | $E < GPT$ |
| B. PRESENT: | |
| 1. Progressive | $E \supset R = GPT$ |
| 2. Prospective | $E > R = GPT$ |
| 3. Ablative | $E < R = GPT$ |
| C. PRESENT IN THE PAST: | |
| 1. Progressive | $E \supset R = GST < GPT$ |
| 2. Prospective | $E > R = GST < GPT$ |
| 3. Ablative | |
| D. PAST IN THE PAST: | $E < GST < GPT$ |

Note that in (71) Inclusive present is assumed to be subsumed under Progressive

²¹This is similar to the 'speech act' analysis of modal verbs suggested by Boyd and Thorne (1969). They propose the following two-level analysis for the sentences in (a) and (b):

- a. He goes to London tomorrow.
b. He will go to London tomorrow.
- a.' I STATE He goes to London tomorrow.
b.' I PREDICT He goes to London tomorrow.

aspect. Furthermore, the distinctions shown are purely aspectual; as we have seen, we require another level of representation to account for the modal meanings.

As has already been hinted at, the RT should not be considered simply as a *temporal* entity (i.e. as the current temporal focus), but the notion of RT also relates to the subject's position with respect to a situation, be it a concrete situation, such as being inside (going into/out of) a house, or an abstract one (being in the process of e.g. running or in a state of happiness). It is clear then that we need to add a spatial dimension to the temporal model, and extend our discussion to the *spatio-temporal* structure of discourse. I will introduce this extended model in the next chapter.

Chapter Six

A Localistic Theory of Tense and Aspect

6.1. Introduction to Localism

According to the Localist Hypothesis, all semantic relations are based on spatial relations; thus, statements about general semantic structures are assumed to refer to location and movement. A localistic account of temporal semantics has already been suggested in the previous chapters. In Chapter Three, it was argued that the main division among sentences is that between 'motion' and 'nonmotion' (location), i.e. between sentences moving the narrative forward and those describing it at the current reference point. Furthermore, in Chapter Five, it was suggested that a spatial dimension should be added to the temporal model; specifically, it was argued that notions like 'event structure' and 'reference time' cannot be described without recourse to the localist notions of movement and location.

In this chapter, I propose a localistically oriented semantic theory of tense and aspect. Before discussing tense and aspect as locatives in Section 6.2., I look briefly at the semantic classification of verbs (or rather, more generally, the semantic structure of propositions).

The first thing to note is that the verb is considered to be the central element in the predication, describing the type of processes associated with a sentence. This is the assumption made by valency grammarians (for instance, Tesnière (1959), who divide the elements (participant roles) occurring with the verb into two types: complements ('actants' in Tesnière's terminology), which are assumed to be obligatory, and adjuncts ('circonstants'), which are optional, and may occur with any verb, (barring pragmatic constraints).

The main task of valency grammar is to determine the linking of the semantic

roles and syntactic functions of verb arguments.¹ 'Case grammar', devised by Fillmore (cf. Fillmore, 1968 and 1971a), represents one such attempt to classify verbs on the basis of the kinds of semantic roles their arguments are associated with. Arguing against transformational accounts of grammatical functions, Fillmore claims that the notion of subject and object should refer to the surface structure only, since nouns in subject and object position can be associated with a variety of semantic roles. He discusses the following set of examples:

- (1) a. He hit the ball.
b. He received a blow.
c. He received a gift.
d. He loves her.
e. He has black hair.

In each case, the subject expresses a distinct semantic role, so if we wish to associate the nominative with the subject function, we will have to specify that the subject in (1a-e) expresses the nominative of 'agent', 'patient', 'beneficiary', 'affected person', and 'interested person', respectively.

Fillmore argues that the notion of roles, by contrast, is of crucial importance to the semantic interpretation of sentences. For instance, the verb *open* is associated with the following case frame:

- (2) OPEN: +[O (I) (A)]

where 'O' stands for 'Objective'; 'I' for 'Instrumental', and 'A' for 'Agentive'. The selection of surface subject and object is then determined by rules of the following sorts: "If there is an A, it becomes the subject; otherwise if there is an I it becomes the subject; otherwise the subject is O" (Fillmore, 1968:33). This rule accounts for the following sentences:

- (3) a. John opened the door.
b. The key opened the door.
c. The door opened.

In distinguishing different cases, Fillmore has deployed two types of criteria: *discriminatory* and *identificatory*. The former involves e.g. the conjunction test: only nominals belonging to the same deep case can be conjoined; hence the ungrammaticality of e.g. **John and the potatoes are cooking*, where *John* represents an Agentive and *the potatoes* an Objective case). The latter type of criteria include grammatical criteria, such as imperativisation; specifically, only agentive sentences can be occur in the imperative form.

¹See e.g. the collection of papers edited by W. Abraham (1978).

From the localist point of view, the main problem with the Fillmorean type of case grammar is that in it relations and roles are confused: the former refer to the internal structure of a sentence and remain the same irrespective of the actual lexical items that manifest them, whereas the latter specify the semantic properties associated with the nouns and verbs involved. Thus, one serious problem with Fillmore's theory is his notion of agency, which is assumed to correlate with animacy. For example, Fillmore claims that (4a) is grammatical, while (4b) is not, since the subject of the latter denotes an inanimate object, therefore expressing an Instrumental, rather than an Agentive role:

- (4) a. Open the door, John!
- b. Open the door, wind!

However, as has been noted by both Huddleston (1970) and Cruse (1973) the distinction between Agent and Instrument made by Fillmore relates to extralinguistic facts about animacy; specifically, the difference between (4a) and (4b) has nothing to do with the case relations, but is pragmatically determined. Thus, we can say that (4b) is pragmatically odd unless it can be interpreted as referring to an intentional action.

What localists want to claim then is that all cases can be reduced to a small number of universal case relations of which the spatial uses are the most concrete ones.² One comprehensive localist account of semantic relations has been offered by Anderson (1971) and (1977). Instead of Fillmore's principle of discrimination, Anderson proposes to deploy a principle of complementarity in determining the number of relevant cases. Consider the following examples:

- (5) a. I am warm.
- b. The room is warm.
- c. Summer is warm.

- (6) a. Mary went to school with her sister.
- b. Mary hit John with a book.

What Anderson claims is that the putative cases associated with the subjects in (5) (experiencer, locative and temporal, respectively) are in complementary distribution; in other words, the difference in the interpretation is attributable to the lexical items *I* (human), *room* (spatial enclosure), and *summer* (temporal interval), rather than to three distinct case relations. Similarly, in (6) the *with*-phrase expresses a general semantic relation of location, i.e. the objects denoted by *her sister* and *a book* are both interpreted as being located in the proximity of Mary, though of course the two phrases express distinct semantic roles (comitative and instrumental, respectively) (This has been pointed out by e.g. Anderson (1971:171) and Brown and Miller (1982)).

²See e.g. Anderson (1971), Jessen (1975) and Miller (1985) for the history of localism.

In Anderson, 1977 the number of cases has been reduced to four: '(abs)olutive', '(loc)ative', '(erg)ative', and '(abl)ative'. 'Abs' is the neutral case whose presence is required in every proposition. 'Loc' is a place relation, expressing concrete location, but also subsuming temporal and experiencer roles (see example (5)). 'Erg' expresses extended agency, subsuming instrumentality (see (4)). Finally, 'abl' is a place relation, expressing both concrete and abstract source.

According to Anderson, these case relations are universally distinguished in terms of the distribution of two directional components, source and place. Thus, 'loc' and 'abl' are grouped together as place relations and 'erg' and 'abl' as sources (the source of action and the source of spatial trajectory, respectively). The non-sources 'abs' and 'loc' are complex in that they are goals only in the presence of 'erg' and 'abl' (the goal of an action or the spatial goal, respectively). There is then a clear correlation between transitivity and movement.

Anderson further argues that 'allative' should be analysed as 'loc' which is dependent on a predicate that is also 'abl', as in *The ball rolled from the door to the window*. There are a number of motivations for such an analysis; for instance, Anderson claims that this analysis is lexically natural in that the markers of 'loc' and 'all' are frequently identical. For instance, in English *in* and *on* can mark both (cf. e.g. *He put the knife in his pocket*, and *The knife was in his pocket*, or *He put the book on the table* and *The book was on the table*). Furthermore, the preposition in locative and allative sentences is absent under the same circumstances, but must be retained in clauses with an ablative. Compare (7) with (8) in this respect:

- (7) a. He stops over at Bordeaux.
b. He flies to Bordeaux.
c. He flies from Bordeaux.
- (8) a. He stops over (*at) there.
b. He flies (*to) there.
c. He flies from there.

Finally, Anderson points out that there is a clear semantic affinity between locatives and allatives; for instance, *John has gone to London* implies that John is in London.

It has been argued e.g. by Kilby (1984) that both versions of case grammar discussed here fail to give a satisfactory *semantic* characterisation of different verb classes. This is because case frames which are supposed to encapsulate the semantic description of verbs, are in fact determined on purely syntactic grounds, taking into account such factors as whether a verb occurs in imperative and

passive sentences (cf. e.g. Fillmore's example in (4))³

There are other localistically oriented accounts of propositional structure which are more concerned with a purely semantic classification of predicates. For instance, Lyons (1977) discusses the semantic representation of propositions with respect to the following valency schemata:

(9)

A. DYNAMIC:

1. Non-causative: MOVE (ENTITY, SOURCE, GOAL)
(e.g. The ball rolled from the door to the window)
2. Causative: PRODUCE (AGENT, (MOVE (ENTITY, SOURCE, GOAL)))
(e.g. Bill rolled the ball from the door to the window)

B. STATIC:

1. Concrete Location: BE (ENTITY, PLACE)
(e.g. Mary was in London)
2. Abstract location: BE (ENTITY, ATTRIBUTE/CLASS)
(e.g. Mary was ill/a teacher)

Lyons then discusses these valency schemata within a localist framework. For instance, noting the similarity between transitive/causative verbs and verbs of movement, he points out that there is a natural correlation between agency and cause, and source of the action. So killing someone can be said to mean that the agent is the source via which the patient moves from the state of being into the state of non-being. Similarly, the agent in e.g. *Mary hit John* can be claimed to be moving towards a goal, which in this case is the patient. Thus, both these cases can be said to involve the MOVE-predicator.

Furthermore, Lyons (1977:721) points out that there is a correlation between movement and change of state (including possession). For instance, to say that X has become Y or X has acquired Z is equivalent to saying that X has passed from the state of not being Y or not having Z to the state of being Y or having Z. Similarly, to say that X has ceased to be Y or has lost Z is equivalent to saying that X has passed from being Y or having Z to not being Y or not having Z. Thus, we can note the following implicational relations:

³As for Anderson (1977), he allows NPs to be associated with more than one case; for instance, *know* has the following case frame:

know: +[[abs] [loc,erg]]

Anderson then proposes the following rules (for English): only +[erg] verbs can be passivised (e.g. The truth is known by many people), and only +[erg] verbs in non-locational propositions allow imperativisation (hence, *Know the answer!).

(10)

A. Non-causatives:

1. Motion (concrete):
John has gone to London) =>
John is in London

John has left London =>
John is no longer in London
2. Motion (abstract):
 - a. Attribute:
John has become ill/a teacher =>
John is ill/a teacher
 - b. Possession:
John has received money =>
John has money

John has lost money =>
John no longer has money
 - c. Existence:
The building has come into existence =>
The building is in existence

B. Causatives:

1. Concrete:
John has put the book on the table =>
The book is on the table
2. Abstract:
 - a. Attributes:
John has made me sick => I feel sick
 - b. Possession:
John has given me a book => I have a book
 - c. Existence:
John has written a letter => A letter exists

The process whereby someone or something passes from one state to another may be accounted for in terms of the localist notion of a **journey**, which was already mentioned in Chapter Three (cf. Jessen (1975)). Journeys can be **extended**, in which case Jessen argues that they have the following five phases:

- (11)
1. A loc B
 2. transition from A loc B to A loc INT((B,C))
 3. B -> L(A) -> C
 4. transition from A loc INT((B,C)) to A loc C
 5. A loc C

I.e. A is located at B (1); A departs from the source (2); and is located in the interval between B and C (3); A arrives at the goal(4), and is located at C (5).

Travelling from a source to a goal implies following a particular **path**. Sentences

describing extended journeys either specify both the source and the goal, or one of them, (e.g. *John walked (from the library) to the post office*), or they specify the path (*John crossed the Channel*). With punctual predicates, the journey is reduced to a **border-crossing**, as in *John arrived in Paris* or *He crossed the finishing line*, where there is no intermediate space between the source and the goal.

The following sentences describe journeys of varying degrees of abstractness, (12a) describing concrete, and (b), (c), (d), and (e) progressively more abstract movement:

- (12) a. Terry handed the poem to Sue.
b. Terry brought the poem to Sue.
c. Terry gave/sold the poem to Sue.
d. Terry dedicated the poem to Sue.
e. Terry read/recited the poem to Sue.
f. Terry taught the poem to Sue.

(These examples are from Jessen (1975:162)).

One problem with these sorts of localist theories is that they tend to ignore the more subtle semantic distinctions expressed by the various verb classes, or as Allerton (1979:255) puts it: "How far are we entitled to pass over finer semantic details in the cause of achieving a broad generalisation?" Similarly, it has been suggested by Brown and Miller (1982:206) that a description of language needs to include both general semantic relations expressing location and movement and roles describing the semantic properties of individual lexemes. They then discuss the linking of propositional structures and abstract semantic relations; for instance, the sentence *The student read a book* is assigned the following propositional structure:

- (13) agent action/directed neutral/patient

The feature *directed* here indicates that the action is directed at something and the combination of the features *neutral* and *patient* describes a non-agent participant that is affected by the action. These sorts of features allow the grammar to link a given syntactic structure to the corresponding semantic one. For instance, in the above example, the agent is associated with the 'prolative' case, expressing the fact that the action moves by way of someone, while the patient is associated with the 'allative' case, expressing the fact that the action is directed towards the object. (In the lexicon the entries for *student* and *book* make clear what kind of prolative and allative relations are being referred to).

Jackendoff (1976) also proposes a semantic classification of verbs based on location and movement. He distinguishes the following five semantic functions of verbs:

- (14)
- | | | |
|----------------|-------|-----------------------|
| 1. Motional: | GO | (theme, source, goal) |
| 2. Punctual: | BE | (theme, loc) |
| 3. Durational: | STAY | (theme, loc) |
| 4. Causative: | CAUSE | (agent, event) |
| 5. Permissive: | LET | (agent, event) |

The difference between BE and STAY is that the former are punctual in the sense that they refer to a point in time (*He was in London at 6*), while the latter are durational, referring to an extended interval (*He stayed in London for 2 hrs*). (Of course, *be* can be also used durationally, as in *He was in London for two weeks*).⁴ The difference between (4) and (5) in turn lies in the type of agent involved: causative and permissive, respectively (i.e. *Laura took the bird from the cage* vs. *Laura released the bird from the cage*).

Jackendoff accounts for the different types of locational and motional verbs by assigning so-called 'restricted modifiers' on the five functions. First of all, he distinguishes three *locational modes*, viz. Positional, Possessional and Identificational, which allow us to draw the familiar parallels between the following set of sentences:

(15)

- | | |
|------------|---|
| GOposit: | The train went to Texas/The coach turned into the driveway. |
| GOposs: | The inheritance went to Philip. |
| GOident: | The coach turned into a pumpkin. |
| BEposit: | Max was in Africa (when Mary died). |
| BEposs: | Max has a book. |
| BEident: | Max is a man. |
| STAYposit: | John stayed in Africa (for 5 months). |
| STAYposs: | John kept the book. |
| STAYident: | The coach stayed a pumpkin. |

Jackendoff also discusses the following sentences, which can be said to involve a 'converse of Possessive location', to use Gruber's (Gruber, 1965) term:

- (16)
- a. Nelson ran out of money.
 - b. Ari is in the money.
 - c. Fred came into a lot of money.

According to Jackendoff, (16c) is related to the ordinary possessional sentence *Fred*

⁴Like Dowty (1979), Jackendoff claims that durational (STAY) verbs are dynamic. However, according to Jackendoff, e.g. *stand* and *lie* are stative, as they cannot occur in the following pseudo-cleft construction:

- a. *What happened was that Mary stood/lay by the window.
- b. What happened was that Mary stayed /remained in London.

As we have seen, Dowty's account, in which *stand* and *lie* are also regarded as dynamic predicates (referring to 'interval states') seems to accord better with the data.

got a lot of money in the same way as *The circle surrounds the dot* is related to *The circle contains the dot*; i.e. the two sentences contain the same proposition, but have different thematic structures.

What I am going to propose is that we can divide sentences into two categories: MOVE and BE, the former corresponding to the autonomous sentences discussed in Chapter Three, and the latter to the nonautonomous ones. I shall elaborate on this hypothesis in the subsequent sections; before that, however, I shall discuss the locative nature of aspectual constructions in general. Specifically, I shall argue that spatial relations are more basic than temporal ones; and moreover, that tense and aspect markers represent kinds of locative construction. Finally, in Section 6.3. I shall return to Finnish contingent states, arguing that some Finnish clauses are not only temporally, but also spatially anaphoric.

6.2. A Localistic Account of Tense and Aspect

6.2.1. Existence and Spatio-temporal Location

The first thing to note is that existential sentences are locative in nature; to exist means to be located in the spatio-temporal world, or in linguistic terms, in the 'universe of discourse' (cf. Lyons, 1968, 1977, and Jessen, 1975). However, as Lyons (1968:388ff) points out, logicians tend to distinguish the existential function of the copula *be* from its identificatory/predicative functions. Thus, we can identify the following four functions of *be*:⁵

- (17)
- | | |
|-------------------|------------------------------|
| 1. Existential | (God is) |
| 2. Identificatory | (That man is John) |
| 3. Attributive | (John is a man; John is ill) |
| 4. Locative | (John is in London) |

The reason for this distinction is that existence cannot be predicated of objects in the same sense as their various attributes or properties but is presupposed in the identification of objects or any reference to them. Consequently, purely existential sentences referring to first-order entities⁶ (i.e. physical objects) are rare in language; their use is mainly confined to philosophical statements, such as those in (18):

⁵As was already pointed out in Chapter Three, I assume that the copula *be* is a grammatical element, devoid of meaning, which serves to carry the markers of tense and aspect.

⁶Following Lyons (1977), we can distinguish three types of entity: *First-order entities* denote physical objects, including persons, animals, things and places, which are said to exist in a 3-dimensional space. *Second-order entities* denote events and states of affairs, and are said to take place or occur in time. Finally, *third-order entities* are abstract entities such as propositions, which are outside space and time.

(18) God is/I think, therefore I am.

Lyons points out that existence implies spatio-temporal location: "Existence is but the limiting case of location in an abstract, deictically neutral space." (1977:723).⁷ This is why purely existential sentences are generally unacceptable with spatial and temporal modifiers, as in (19):

(19) ?God is now/I think therefore I am now/here.

However, Lyons (1968:390) argues that since most existential sentences do *not* refer to deictically neutral space, they normally occur with a spatial or temporal expression, as in (20a). It is, in fact, difficult to distinguish such existential sentences from structurally identical 'pure' locative sentences, such as (20b):

(20) a. There are lions (in Africa).
b. There is a book on the table.

There is an important difference between first-order and second-order nominals (i.e. nominals denoting physical objects and events/states of affairs, respectively) with respect to temporal complementation: only the latter can be located directly in time. Consider the following in this respect:

(21) a. *John was on Sunday/Socrates was in the fifth century
/The building has been over 500 years.

b. John was in London.

(22) a. John was in London on Sunday.

b. The demonstration was on Sunday.

If we wish to predicate temporally limited existence of first-order entities, we have to use *live* in the case of animate objects, and *exist* in the case of inanimate ones:

(23) a. Socrates lived in the fifth century.
b. The building has existed been over 500 years.

The difference between (21a) and (23) is then that the former express pure existence, while the latter refer to a second-order entity (a dynamic process), which can be located in time.⁸

⁷As has been pointed out e.g. by Lyons (1967), in many languages a locative adverb is used in existential constructions (c.f. e.g. the English *there*-construction). In Finnish, the *Iness3* construction, *olla olemassa* ('be in being'), is used to express pure existence.

⁸Note that, unlike the copula *be*, *live* and *exist* can be classified as *dynamic* predicates (or 'Interval States', to use Dowty's (Dowty, 1979) term). (Cf. the discussion in Chapter Three).

According to Lyons (1977:719), the relation of second-order entities to time is comparable to the relation that first-order entities have to space; both relations can be said to be locative in nature. For one thing, as Lyons (1977:718) points out, both spatial and temporal expressions such as tense and some temporal adverbials are *deictic*; indeed, there is a clear parallel between spatial and temporal deixis (cf. *at this place* vs. *at that place* and *at this time* vs. *at that time*). Similarly, there is a direct correlation between temporal and spatial remoteness from the deictic zero-point of the "here-and-now".

Lyons (1977) further argues that *aspectual* distinctions are even more clearly locative. Thus, an event can be located within the duration of a state or a process; therefore, (24b) and (24c) are notionally identical to (24a):

- (24) a. John was run over while he was in London.
b. John was run over while he was crossing the road.
c. John was run over while he was drunk.

The notion of 'spatio-temporal location' can then be defined as follows: a first-order entity exists and is located (or moves) in space, and this second-order entity (the spatial relation) is then located in time. Thus, space and time are perceived as two distinct, though interrelated, dimensions.

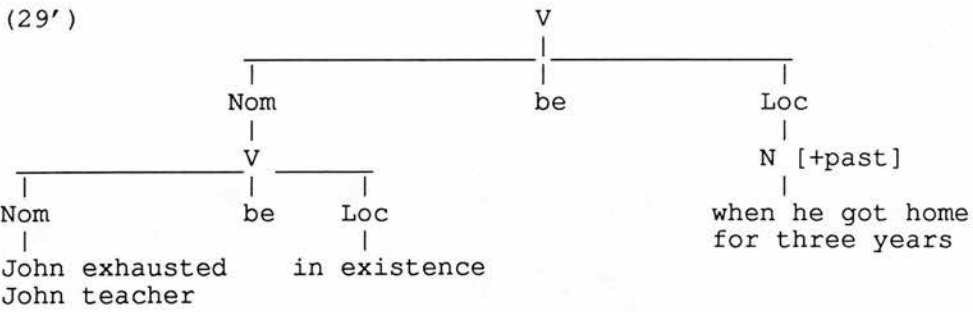
As we have seen, current versions of Situation Theory also distinguish spatial and temporal locations. For example, Crow (1991) points out that unless we distinguish spatial and temporal relations, we cannot account for examples like the following:

- (25) a. Max worked in Yosemite
b. and Alec backpacked there.

where the spatial location is identical in (a) and (b) but the temporal location may be different.

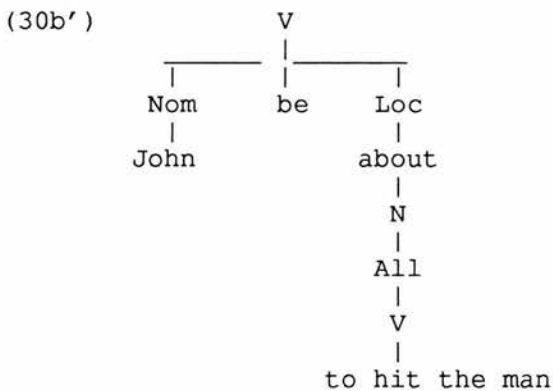
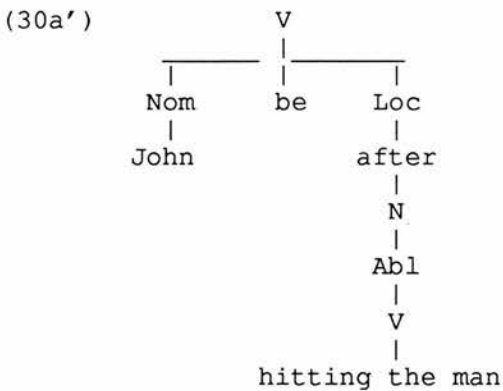
Unlike Situation Semanticists, however, I also argue that spatial relations are more basic than nonspatial ones, including temporal relations. Various different types of evidence can be cited for this argument. For instance, as we have seen, Anderson (1971) has shown that spatial expressions are syntactically and semantically more basic than nonspatial expressions. The reason for this may be, as has been pointed out by Miller and Johnson-Laird (1976), that spatial organisation is central to human cognition. Similarly, it has been argued that temporal expressions are derived from spatial expressions. For instance, Traugott (1975, 1978) has pointed out that nearly every preposition that is locational in English (e.g. *in* and *at*) is also temporal. Moreover, the prepositions *for*, *since* and *till*, which are temporal rather than spatial in Modern English, derive historically from locatives.

- (29) a. John was exhausted when he got home.
 b. John was a teacher for three years.



As for the Ablative and Prospective aspects, they differ from the Progressive in terms of the adnominal case category, which is locational for them. So Anderson proposes the following representations for the sentences in (30):

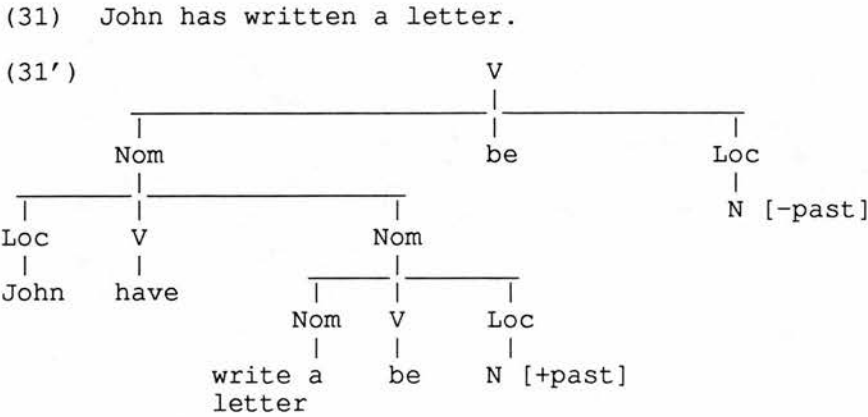
- (30) a. John is about to fall.
 b. John has just fallen.



We can also argue (though Anderson does not make this explicit) that sentences involving Ablative or Prospective aspect refer to a contingent state, i.e. to the (temporary) location of the subject just before/after the event associated with the lowest-node locative. Again, we can predicate the existence of such a state at a

particular time, as in *John was about to fall when we arrived* or *John had just fallen when we arrived*.

Finally, Anderson suggests that in retrospective sentences the subject is a locative possessive, so, for instance, (31) is represented as follows:



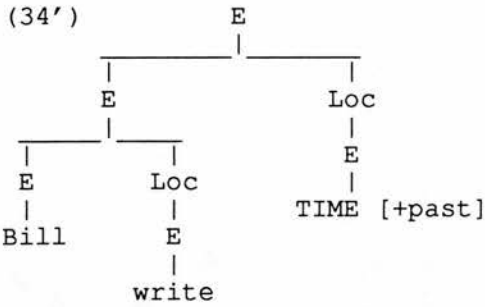
Anderson argues that *have*, just like *contain*, takes a locative subject, so (32a) is equivalent to (32b), and (33a) to (33b):

- (32) a. The library contains those books.
 b. Those books are in the library
- (33) a. The money is with the Inland Revenue.
 b. The Inland Revenue have my money.

(Further evidence for this analysis can be found in Anderson, 1971). We can say then that the Ablative perfect describes a subject's exit from a concrete/abstract location, while the Retrospective perfect describes the location of an abstract property on a subject. Similarly, the Prospective describes a subject's imminent entrance into an abstract/concrete location, while the Intentional mood locates a subject inside an abstract state.

As we have seen, Anderson does not regard progressives as strictly locative; however, other linguists have claimed that since states of affairs are kinds of entities, it is possible to predicate directly the location of a first-order entity in them. This approach is adopted e.g. by Lyons (1977) and Miller (1972) and (1985). Lyons (1977) argues that it is perfectly natural to say of a first-order entity that it is in some state (e.g. *John is in a state of exhaustion*), or in some process (e.g. *John is in the process of cleaning his teeth*) at a particular time, or that a state is located at/with an entity, as in the case of possessive constructions. Similarly, Miller (1985) proposes the following representation for progressive sentences like (34):

(34) Bill was writing.

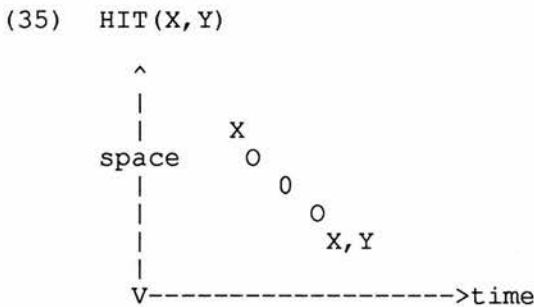


where E represents 'entity', which can be a physical object, location or an event.

A similar approach is taken by Jackendoff (1976), who proposes a **circumstantial** locational mode to account for abstract locative sentences involving activities. Thus, Jackendoff would represent (34) as follows:

(34'') BEcirc(BILL, BILL WRITE)

Another proposal accounting for the correlation of spatial and temporal categories is by Langacker (1982), who makes a 3-way distinction between Perfective processes, Imperfective processes and States. Perfective processes have a full spatial trajectory, and consequently, are temporally bounded. In other words, they involve *change* and a limited number of phases, and it is the limits of the spatial trajectory that impose corresponding limits on the temporal profile. The following is then Langacker's representation for the proposition X HITS Y.

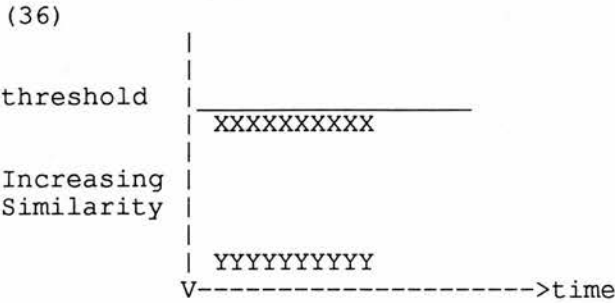


The trajectory designates the motion of X (the figure/the trajector) through space, which ultimately results in the contact of X and Y. Thus, spatial movement clearly correlates with the passage of time.

Perfective processes include concrete physical processes, such as *hit*, *trip* and *fall*, abstract physical processes (e.g. *purrr* and *sing*), and mental processes (e.g. *examine* and *decide*). In the latter case, we can talk of motion only in an extended, metaphorical sense; for instance, Langacker (1982:268) claims that *purrr* "involves physical motion as an intrinsic component, but the spatial aspects of this vibration

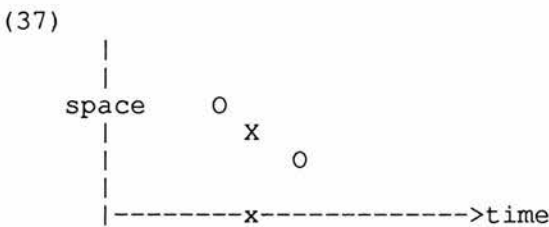
are often beyond our perception, and we grasp the content of *purr* primarily through its auditory value". Similarly, he points out that *examine* may designate an activity including obvious overt movement (as in *They examined the building for termites*); less overt motion of perceptual scanning (*She examined my face*), or metaphorical movement involving cognition (*She critically examined my assumptions*).

Imperfective processes have temporal duration like perfective ones, but zero spatial trajectory; i.e. they involve no change, and no distinct phases. The following is Langacker's representation for an Imperfective process, such as *resemble*:



Y serves as a point of reference, and is located at the end-point of the scale of increasing similarity as a kind of abstract goal. To say that X resembles Y is to say that X is located beyond a certain *threshold* along this scale. Other examples of Imperfective Processes include *have*, *hate*, *know* and *contain*.

Finally, in Langacker's system, States have no temporal duration and zero spatial trajectory. Thus, Imperfective processes can be said to be temporally extended states, while States describe a single point in time. Progressives are kind of states, so *He was writing a letter* would be represented as follows:



where 'X' denotes the trajector, who is assumed to be located inside a process, and 'x' denotes a point in time.

As we we can see, there is a rough correspondence between Langacker's States in (37) and our contingent states, including progressive states. However, it seems to me that his Perfective processes, exemplified by (35), correspond to our telic processes. Similarly, if we ignore the threshold condition in (36), Langacker's

Imperfective processes seem to be roughly equivalent to our atelic processes (temporally extended, but with zero spatial trajectory). I shall return to this issue in Section 6.3., where I take another look at the spatial nature of aspectual constructions, arguing that some Finnish clauses are not only temporally, but also spatially anaphoric.

6.2.3. *MOVE- and BE-sentences*

It is easy to see now the correspondences between the semantic classifications of predicates/propositions described in the previous sections and the sort of approach to predicate class suggested in Chapter Three. Specifically, Lyons' *MOVE-* and *BE-* predicates, and Jackendoff's *GO-* and *LOC-* predicates, correspond to our 'Motion' and 'Nonmotion' sentences, respectively. In other words, *MOVE/GO* sentences can be said to correspond to the deictic (autonomous) sentences represented by (26') in the previous section, whereas *BE/LOC-* sentences correspond to the anaphoric (nonautonomous) sentences represented by (28'-31').

I shall adopt the terms *MOVE* and *BE* for these two sentence types: As has already been pointed out, the classification does not apply to verbs or even propositions alone, but to tensed sentences, and factors such as aspectual operators, aktionsart, and temporal adverbials have to be taken into account in determining whether a particular sentence is autonomous or nonautonomous. I propose then the following representations for *MOVE-* and *BE-* sentences:

- (38) *MOVE*(Entity, Source, Goal); autonomous
 BE (Entity, Loc) ; nonautonomous

I shall now take a closer look at these two sentence types. (From now on, I shall concentrate on Finnish data, since, as we have seen, Finnish grammaticalises many of the semantic distinctions that remain notional in English. However, for illustrative purposes I shall still use English in some examples).

6.2.3.1. *MOVE-sentences*

The assumption is that it is the notion of 'goal' (terminal point) that plays a crucial role in determining the autonomy of a proposition. Thus, we get the following two types of *autonomous* (deictic) sentences:

(39)

- A. Inherently Autonomous (in simple aspect)
 - 1. Bounded Predicates (Border-crossings)
 - 2. Neutral Predicates + Goal (Extended journeys)
- B. Contextually autonomous¹¹

The 'border' in (39A1) may refer to a concrete location, as in (40a), or to a result of a punctual event, as in (40b):

- (40) a. Mies tuli sisään.
Man came inside (ILLAT)
'The man came in.'
- b. Marja ampui karhun.
Marja shot bear (ACC)
'Marja shot a bear.'

The 'goal' in (39A2) refers to a concrete location, as in (41a), or e.g. to the result of an action (41b):

- (41) a. Marja käveli saunalle.
Marja walked sauna (ALL)
'Marja walked to the sauna.'
- b. Pekka kirjoitti kirjeen.
Pekka wrote letter (ACC)
'Pekka wrote a letter.'

Finally, neutral predicates in (39B) are bounded by a temporal/spatial adverbial, as in (42a) (b) and (c), or by an aspectual operator, as in (42d) and (e):

¹¹Of course, (extralinguistic) context can also be used to alter the inherent boundedness value of a sentence; however, in this chapter I shall discuss mainly the semantics of individual sentences, rather than pragmatics.

- (42) a. Pekka seisoskeli ovensuussa hetkisen.
 Pekka stood (IMPERF) doorway (INESS) moment (ACC)
 'Pekka stood at the doorway for a moment.'
- b. Marja kirjoitti kirjettä tunnin.
 Marja wrote letter (PART) hour (ACC)
 'Marja wrote a letter for an hour.'
- c. Pekka ui kilometrin.
 Pekka swam kilometre (ACC)
 'Pekka swam a kilometre.'
- d. Marja nyökkäsi.
 Marja nodded (PERF)
 'Marja gave a nod.'
- e. Marja yskähti.
 Marja coughed (PERF)
 'Marja coughed (once).'

In (42a), (b) and (c), the accusative phrase expresses a kind of 'range' role, whether it refers to a length of time, as in (a) and (b), or a distance, as in (c). A process can also be bounded by aspectual operators, as in (d) and (e), in which the affixes isi and ahta indicate the range of the named activity, picking out a single point.¹²

Going beyond the propositional nucleus, we can distinguish different levels of 'goals' associated with different types of entities. First, we can talk about a first-order entity arriving at a goal, which is illustrated by the following:

- (43) a. Marja meni Lontooseen.
 Marja went London (ILLAT)
 'Marja went to London.'
- b. Marja kirjoitti kirjeen.
 Marja wrote letter (ACC)
 'Marja wrote a letter.'
- c. Pekka sai Marjalta ruusun.
 Pekka got Marja (ABL) rose (ACC)
 'Pekka got a rose from Marja.'

Second, we can talk about a second-order entity restricted temporally:

¹²Similarly, the perfect aspect can be said to provide a right-bound for inherently unbounded processes, as in *Jussi on nauranut* ('Jussi has laughed'). However, I shall not discuss the perfect here as it is not a narrative tense in either Finnish or English: it cannot be used to move the narrative forward; neither does it refer to a contingent state, except when it has the Ablative meaning.

- (44) a. Marja oli Lontoossa viikon.
 Marja was London (INESS) week (ACC)
 'Marja was in London for a week.'
- b. Tyttö seisoskeli kaivolla hetken.
 girl stood (IMPERF) well (ADESS) moment (ACC)
 'The girl was standing by the well for a while.'
- c. Marja kirjoitti kirjettä tunnin.
 Marja wrote letter (PART) hour (ACC)
 'Marja wrote a letter for an hour.'

Third, we have two second-order entities (events), E1 and E2, which form a *complex* entity: E1 is expressed by a main clause, and E2 by a participial clause, and the latter represents the goal associated with the former:

- (45) a. Mielonen laskeutui portaat alas (E1)
 Mielonen landed stairs down
 avaten korsun oven (E2)
 open (INSTR2) dugout (GEN) door (ACC)
 'Mielonen went downstairs opening the door of
 the dugout.' (Väinö Linna, *Tuntematon Sotilas*: 284)
- b. He lit one anyway and went to the window,
opening the shutters and leaning out
 (Clare Boylan, *Understanding Virgins*: 138)

Finally, we have two second-order entities, E1 and E2, which are causally related. According to Lyons (1977:721) *causes* are second-order entities, and may be conceived localistically as sources of their effects, so for instance the sentences in (46):

- (46) a. Rain stopped play.
 b. Mary's arrival created new problems.

can be represented as follows:

(46') PRODUCE (AGENT (MOVE (ENTITY, (SOURCE), GOAL)))

where *rain* and *Mary's arrival* represent the Agent, *play* and *new problems* the moving Entities, and the Goal role is represented by the abstract entities *Non-Existence* in the case of (46a), and *Existence* in the case of (46b).

Lyons further claims that there is a clear temporal relation between the cause and its effect; hence, both causal and conditional sentences are related to temporal ones. Consider the following in this respect:

- (47) a. Bill fell onto the floor because/when John
 stabbed him.
 b. Water boils if/when you heat it to the temperature
 of 100 degrees C.

However, in these kinds of sentences, the causal relation has to be inferred on the basis of non-linguistic information, and it cannot, therefore, be regarded as part of the semantic (temporal) description of the narrative. It is clear then that causes have to be distinguished from *reasons*; as we have seen, the latter, being propositional in nature, are third-order entities (i.e. outside space and time). The following are further examples of 'reason'-clauses:

- (48) a. John was upset (E1) because/when Mary hit him. (E2)
b. Mary frowned (E1) because John was being silly. (E2)
c. Mary hit John (E1) and he turned around. (E2)

What I claim is that in all the above sentences the causal link between E1 and E2 is over and above the temporal one; in other words, I assume that the spatio-temporal relation between the two clauses is more basic than the causal one. Consequently, when discussing the temporal structure of narratives, I shall be mainly concerned with causality insofar as it is semantically (linguistically) determined. This does not mean that pragmatically determined causality does not play a role in narrative movement; however, it is not the main concern of this thesis.

I shall discuss this issue in more detail in Chapter Seven, where the system is developed further.

6.2.3.2. *BE-sentences*

Non-autonomous sentences do not involve the notion of 'goal', either because they denote a situation type which lacks inherently a terminal point, or because the aspectual marking of the sentence indicates that the focus is on the middle of a situation. Thus, we get the following two types of *non-autonomous* sentences:

- (49) A. Inherently Non-autonomous:
1. Locative
2. Possessive
3. Attributive
B. Contextually Non-autonomous

(50a) exemplifies (49A1); (50b) and (c) exemplify (49A2), and, finally, (50d) and (e) exemplify (49A3):

- (50) a. Marja oli saunassa.
 Marja was sauna (INESS)
 'Marja was in the sauna.'
- b. Marjalla oli kirja kädessä.
 Marja (ADESS) was book hand (INESS)
 'Marja had a book in her hand.'
- c. Marjalla oli kylmä
 Marja (ADESS) was cold (NOM)
 'Marja was (feeling) cold.'
- d. Marja oli vihoissaan.
 Marja was anger (INESS)
 'Marja was angry.'
- e. Marja oli kipeänä.
 Marja was ill (ESS)
 'Marja was ill.'

The following are examples of contextually non-autonomous sentences (Case (49B)), involving a variety of aspectual markers:

- (51) a. Marja kirjoitti/ oli kirjoittamassa kirjettä.
 Marja write (SP) /was write (INESS3) letter (PART)
 'Marja was writing a letter.'
- b. Marja oli juuri tullut Lontoosta.
 Marja was just come (PP) London (ELAT)
 'Marja had just come from London.'
- c. Marja oli avaamaisillaan ikkunan.
 Marja was open (INF5) window (ACC)
 'Marja was about to open the window.'
- d. Marja uiskenteli.
 Marja swam (IMPERF)
 'Marja was swimming about.'
- e. Marja katseli ikkunasta ulos.
 Marja looked (IMPERF) window (ELAT) out
 'Marja was looking out of the window.'

The locative nature of (51a), (b) and (c) seems obvious. However, it may seem perverse to claim that activities such as *uiskennella* and *katsella* in (d) and (e) represent BE-, and not MOVE-predicates. In fact, as we shall see in the subsequent sections, it would be more accurate to claim that these sorts of activities represent MOVE-predicates, which are both spatially and temporally subordinate to a BE-sentence (i.e. they are temporally and spatially anaphoric). Similarly, as we saw in Chapter Four, some essive expressions are subordinated to a MOVE-sentence, which serves as their spatio-temporal antecedent.

I shall now take a closer look at the spatio-temporal properties of contingent states in Finnish. (As we have seen, noncontingent states are atemporal in nature, and hence not very interesting from the point of view of the present discussion.)

6.3. Spatio-temporal Anaphora in Finnish

6.3.1. Introduction

There seem to be two different accounts of contingent states: first, existence is predicated of a second-order entity at a particular time (e.g. Anderson, 1973), and second, a first-order entity is located directly within a second-order entity at a particular time. (cf. Miller, 1985 and Jackendoff, 1976). Thus, if we assume that BE_t is a 2-place predicate taking an event and a temporal interval as arguments ($BE_t[E,T]$), and BE_s is also a 2-place predicate taking an entity and a location ($BE_s[E,L]$), we can represent the two positions as follows:

(52)

1. $BE_t (BE_s(\text{John_write}, \text{Existence}), \text{Time})$:
(The process of John writing is in existence (in an unspecified location), at a particular time)
2. $BE_t (BE_s(\text{John}, \text{Writing}), \text{Time})$:
(John is located in the process of writing, at a particular time)

I suggest that instead of offering two competing accounts, these positions can, in fact, be viewed as different *levels* of representation: at one level, John can be said to be located in the process of writing, and at a higher level John and the activity are assumed to be in existence (in a particular location) at a particular time. This can be represented as follows:

(53) $BE_t \{BE_s2 [BE_s1 (\text{John}, \text{Writing}), \text{Existence}], \text{Time}\}$

where BE_s2 and BE_s1 represent the two levels of spatial location.

Langacker (1982) seems to reconcile the two approaches: according to him, we have a 3-place predicate which takes a trajector (the subject), a spatial trajectory and a temporal interval. This could then be represented as follows:

- (54)
- a. $MOVE (\text{SUBJECT}=X, \text{TRAJECTORY}=Y, \text{TIME}=Z) : \text{PERF}$
 - b. $MOVE (\text{SUBJECT}=X, \text{TRAJECTORY}=0, \text{TIME}=Z) : \text{IMPERF}$
 - c. $BE (\text{SUBJECT}=X, \text{TRAJECTORY}=0, \text{TIME}=0) : \text{STATE}$

(The 0-value means a zero-profile).

However, from the point of view of the present thesis, Langacker's account is associated with the following problems.

First, he ignores the difference between telic and atelic processes, which is crucial in the analysis of temporal expressions. For Langacker, the trajectories of *writing a letter* and *purring* are identical, as they both describe Perfective Processes. However, it is clear to me that as linguistic entities they are associated with altogether different properties: *writing a letter* describes a telic, and *purring* an atelic process.

Specifically, predicates expressing telic processes are associated with a concrete or abstract spatial trajectory; in other words, they denote processes involving change *and* a limited number of phases. When occurring in an autonomous sentence, such as (55a), telic expressions are inherently bounded spatio-temporally; when occurring in a nonautonomous sentence, as in (55b), they locate the subject in the middle of a concrete or abstract spatial trajectory, and the whole sentence is then related to an expression specifying a temporal entity:

- (55) a. Marja käveli asemalle /kirjoitti kirjeen.
 Marja walked station (ALLAT)/wrote letter (ACC)
 'Marja walked to the station/wrote a letter.'
- b. Marja oli ullakolla kirjoittamassa kirjettä
 Marja was attic (ADESS)/write (INESS3) letter (PART)
 kun tulin kotiin.
 when I came home (ILLAT)
 'Marja was in the attic, writing a letter
 when I came home'.

This also applies to sentences denoting *absolute states*, such as (56a) and (56b), which have a clear beginning and end, and hence project an abstract spatial trajectory:

- (56) a. Marja oli sairaana.
 Marja was ill (ESS) last week
- b. Kaappi oli tyhjänä.
 cupboard was empty (ESS)

The situation is different with regard to sentences denoting *atelic* processes. Though describing motion, they do not involve an intrinsic goal, and hence do *not* project a trajectory in the way telic sentences do. In order to be semantically complete, they have to be accompanied by a temporal adverbial, as in (57b), or related to a spatial expression, as in (57c), in which case the whole locative sentence must further be related to a temporal expression:

- (57) a. !Kissa kehräsi.
 cat purr (SP)
 'The cat purred/was purring.'
- b. Kissa kehräsi tunnin.
 cat purr (SP) hour (ACC)
 'The cat purred for an hour.'
- c. Kissa kehräsi ikkunan ääressä.
 cat purr (SP) window (GEN) edge (INESS)
 kun astuin sisään.
 'The cat was purring by the window when I walked in.'

This is also true of the essive construction denoting a nonabsolute state, which has to be related to a spatio-temporally complete expression, i.e. one which specifies a spatio-temporal entity. Hence, (58a) is semantically unacceptable, whereas (58b) is perfectly well-formed:

- (58) a. !Pekka oli vihaisena.
 Pekka was angry (ESS)
- b. Pekka tuli kotiin vihaisena.
 Pekka came home angry (ESS)

The telic-atelic distinction also plays an important part in determining the acceptability of the Iness3 construction: generally speaking, the construction is possible only with telic predicates:

- (59) a. !Kissa oli kehräämässä.
 cat was purr (INESS3)
- b. Marja oli kirjoittamassa kirjettä.
 Marja was write (INESS3) letter (PART)

It is clear then that in Finnish atelic processes cannot be viewed as just 'hanging' in an empty space; they have to be presented as having spatio-temporal boundaries. This means in practice that if sentences referring to an atelic process are not temporally restricted, they have to be bounded by a spatial expression. In other words, it is necessary to separate the notion of *process* ('John is in the process of running') from the notion of *space* ('John is (in the process of running) in the garden'); we need to specify both the process and the spatial enclosure in which it takes place.

Thus, in order for a tensed sentence to be semantically interpretable, we need to have available its complete spatial *and* temporal descriptions. We have already divided tensed sentences into temporally deictic and anaphoric; what I wish to claim now is that there are also sentences which are *spatially* anaphoric, i.e. sentences which have to be related to a spatial antecedent.

Another problem with Langacker's system is that in it time and space are treated

as inseparable notions. However, I am going to argue that the linguistic notions of spatial and temporal location are separable, though naturally interrelated, and furthermore, that the notion of spatial location is the more basic one. For instance, as we have already seen, first-order entities can be located directly in space, but not in time (*John was in London* is acceptable, while *John was yesterday* is not). Thus, spatial anaphora are more basic than temporal ones in the sense that if a clause is spatially anaphoric it is also temporally anaphoric, but not *vice versa*. We can then talk about four types of relations:

- (60) 1. A. Spatial Deixis
 B. Temporal Deixis
2. A. Temporal Anaphora
 B. Spatial Anaphora

Consider the following examples:

- (61) a. Juhani oli Lontoossa.
 Juhani was London (INESS)
- b. Juhani meni Lontooseen.
 Juhani went London (ILLAT)
- c. Juhani oli Lontoossa kun soitin hänelle.
 Juhani was London (INESS) when I rang him (ALLAT)
- d. Juhani tuli Lontoosta vihaisena.
 Juhani came London (ELAT) angry (ESS)

(61a) is spatially complete, i.e. identifies a spatial enclosure; however, it is temporally anaphoric and is interpreted with respect to another clause, as e.g. in (61c), where the *when*-clause provides a temporal antecedent for the main clause. (61b) is complete spatio-temporally, identifying a spatio-temporal entity, whereas (61d) contains a spatially anaphoric expression, *vihaisena*, which has to be related to a spatio-temporal antecedent, such as (61b).

When I say that e.g. (61b) is spatio-temporally complete, what I mean is that it is *semantically* complete. Of course, in discourse it may be related temporally to another spatio-temporal entity; for instance, the event it describes may be interpreted as succeeding another event introduced in the preceding context. Moreover, in discourse, an autonomous clause may also be related to a spatial entity. This is especially true of sentences denoting abstract motion, such as those in (62):

- (62) a. Marja yskähti/naurahti.
 Marja coughed/laughed (PERF)
 'Marja coughed once/gave out a laugh.'
- b. Juhani sairastui/suuttui.
 Juhani illed/angered (INCHO)
 'Juhani fell ill/became angry.'

As we shall see in Chapter Seven, abstract motion events are often related to concrete ones; hence, the sentences in (62) are understood as being anchored to a sentence in the previous discourse specifying a concrete spatial location. However, as was pointed out in Chapter Two, we have to distinguish semantic and discourse anaphora: semantically the sentences in (62) are complete.

In the subsequent sections, I shall discuss two types of temporal modifiers: FOR-adverbials, which specify the duration of a situation, and WHEN-adverbials, which specify the precise spatio-temporal location of a situation. The former occurs either in locative (63a), or in atelic activity sentences (63b), and the latter occur in locative (63c) and (telic) activity sentences (63d):

- (63) a. Juhani oli Lontoossa päivän.
 Juhani was London (INESS) day (ACC)
- b. Juhani käveli tunnin.
 Juhani walked hour (ACC)
- c. Juhani oli Lontoossa kun Marja soitti.
 Juhani was London (INESS) when Marja rang
- d. Juhani kirjoitti kirjettä
 Juhani wrote letter (PART)
 kun Marja saapui kotiin.
 when Marja came home

I shall now look at the behaviour of contingent states in Finnish in more detail.

6.3.2. *The Essive Construction*

As we have seen, a locative construction (the adessive case) is used in Finnish to express the following kinds of contingent states:

- (64) a. Juhanilla oli kirja.
 Juhani (ADESS) is book (NOM)
 'Juhani had a book.'
- b. Marjalla on nälkä/kylmä/kiire
 Marja (ADESS) is hunger/cold/hurry (NOM)
 'Marja was hungry/cold/in a hurry.'

Another possibility is to use the the inessive case, followed by a possessive suffix,

as in (65):¹³

- (65) a. Marja on nälissään/kylmissään/
kiireissään
Marja is hunger/cold/hurry (INESS + POSS)
'Marja is hungry/cold/in a hurry.'
- b. Pekka on peloissaan/iloissaan/vihoissaan.
Pekka is fear/joy/anger (INESS + POSS)
'Pekka is frightened/pleased/angry.'

Like all locative constructions, the sentences in (65) are temporally anaphoric, and have to be anchored to a temporal antecedent:

- (66) a. Marja oli nälissään tullessaan kotiin.
Marja was hunger (INESS) come (INESS2) home (ILLAT)
'Juhani was hunger when he came home.'
- b. Pekka oli iloissaan kun Marja soitti.
Pekka was joy (INESS + POSS) when Marja rang
'Pekka was pleased when Marja rang.'

However, they are all spatially complete and therefore uninteresting from the point of view of the present discussion. The essive construction is more problematic in this respect and is therefore worth discussing in some detail.

As we have seen, Finnish is often claimed to grammaticalise the contingent-noncontingent distinction; specifically, the essive case is used to express the former and the nominative (or the partitive) case the latter. However, we have also seen that only predicates expressing some kind of an *absolute* state can occur in the essive unproblematically, while predicates denoting a *nonabsolute* state require a spatio-temporal antecedent. The following are examples of sentences referring to an absolute state:

- (67) a. Marja on sairaana/kodittomana/tajuttomana.
Marja is ill/homeless/unconscious (ESS)
- b. Ruoka oli valmiina /Ovi oli avoinna.
food was ready (ESS)/Door was open (ESS)
- c. Paikka oli vapaana/ Kaappi oli tyhjänä.
seat was free (ESS)/Cupboard was empty (ESS)

As was already mentioned in Chapter Four, the states denoted by the essive sentences in (67) are assumed to have boundaries in the sense that the specific change associated with them sets limits on the occurrence of the state. Hence, they can all be said to project an abstract spatial trajectory. Of course, all these sentences are temporally anaphoric, requiring a WHEN- or a FOR-adverbial to be fully interpretable:

¹³These sentences, of course, involve a 'converse of Possessive Location', discussed above (cf. Gruber, 1965).

- (68) a. Mies oli tajuttomana
 man was unconscious (ESS)
 kun ambulanssi saapui paikalle/pari tuntia.
 when ambulance arrived/a couple of hours
- b. Talo oli pimeänä
 house was dark (ESS)
 kun saavuin paikalle/koko aamun.
 when I arrived/all morning.

By contrast, an essive construction referring to a nonabsolute state does not project an abstract spatial trajectory, and is therefore anaphoric both temporally *and* spatially; hence the unacceptability of the following:

- (69) a. !Marja on vihaisena/iloisena (tällä hetkellä).
 Marja is angry/happy (ESS) (just now)
- b. !Marja oli juopuneena/kalpeana (tullessaan kotiin).
 Marja was drunk/pale (ESS) (when she got home)
- c. !Marja oli köyhänä/hoikkana (sinä talvena).¹⁴
 Marja was poor (ESS)/slim (ESS) (that winter)

These sorts of expressions have to be related to a spatio-temporal antecedent. However, as is illustrated by the following sentences, states cannot be presented as taking place in a concrete location:

- (70) a. !Matti oli vihaisena keittiössä.
 Matti was angry (ESS) kitchen (INESS)
- b. !Mies oli tajuttomana lattialla.
 man was unconscious (ESS) floor (ADESS)
- c. !Liisa oli kalpeana huoneessaan.
 Liisa was pale (ESS) room (INESS + POSS)

Instead, they have to be related to a clause or a predicate denoting a dynamic situation:

¹⁴As we have seen, *Marja oli köyhänä* and *Marja oli hoikkana*, etc., are acceptable if they can somehow be interpreted as referring to an absolute state (cf. Chapter Four, Section, 4.3.2.).

- (71) a. Hän palasi Austraaliasta köyhänä/ruskeana.
He returned Australia (ELAT) poor/brown (ESS)
- b. Hän sieppasi kirjan minulta vihaisena.
vaivautuneena.
He snatched book (ACC) me (ABL) angry.
- c. Marja lauleskeli iloisena tullessaan sisälle.
Marja sang happy (ESS) come (INESS2) in
- d. Pekka pysyi rauhallisena/kalpeana (pitkän aikaa).
Pekka stayed calm/pale (ESS) (long time)
- e. Matti makasi kalpeana/tajuttomana nurkassa.
Matti lay pale/unconscious (ESS) corner (INESS)

The essive constructions in (71a) and (b) are related to an autonomous clause, i.e. a clause specifying a complete spatio-temporal entity. The essive phrases in (71c) and (d) are in turn related to a dynamic predicate, which forms part of a locative construction, and the locative sentences are then related to a temporal antecedent (71c), or bounded by a durative temporal adverbial (71d). Finally, in (71e) the essive is related to a dynamic predicate, the whole expression is localised by *nurkassa*, and is then assumed to be related to a temporal antecedent.

As for the predicate nominals, consider again the following:

- (72) a. !Liisa oli opettajana kun tämä tapahtui.
Liisa was teacher (ESS) when it happened.
- b. !Liisa oli opettajana.
Liisa was teacher (ESS)
- c. Liisa oli opettajana Helsingissä
Liisa was teacher (ESS) Helsinki (INESS)
kun tämä tapahtui.
when it happened.
- d. Liisa oli opettajana kuukauden.
Liisa was teacher (ESS) month (ACC)
- (73) a. !Lapset leikkivät kun saavuin kotiin.
children played when I got home
- b. !Lapset leikkivät.
children played
- c. Lapset leikkivät ullakolla kun saavuin kotiin.
children played attic (ADESS) when I got home
- d. Lapset leikkivät koko aamun.
children played all morning (ACC)

It is clear that the essive phrases in (72) behave just like atelic simple past sentences like those in (73): both have to be localised explicitly if occurring with a WHEN-adverbial (compare (72a and c), with (73a and c)), or they have to be temporally restricted by a FOR-adverbial (compare (72b and d) with (73b and d)).

6.3.3. The Iness3 Construction

We have already noted the following facts regarding the Iness3 construction: (1) it is used with activity verbs associated with a typical location, as in (74), and (2), it is used with telic predicates, as in (75):

- (74) Marja on uimassa/kävelemässä.
Marja is swim /walk (INESS3)
'Marja has gone swimming/for walk.'
- (75) Marja oli kirjoittamassa kirjettä/
Marja was write (INESS3) letter (PART)/
laittamassa päivällistä/
prepare (INESS3) dinner (PART)/
uimassa saarta kohti.
swim (INESS3) island (PART) toward
'Marja was writing a letter/preparing dinner/
swimming towards the island'.

What the two uses have in common is that they both refer to a situation with clear boundaries: the sentences in (74) are associated with the journey to and from the typical locality, and those in (75) with the abstract journey culminating in the built-in terminal point characteristic of telic activities. Consequently, the Iness3 construction is generally unacceptable with atelic predicates *not* associated with a typical locality:

- (76) !Juhani on nauramassa/laulamassa/hyppimässä.
Juhani is laugh/sing/jump (INESS3)

These sorts of sentences are acceptable only if the situation described can in one way or the other be left-bounded; specifically, the process expression has to be combined with a locative expression, and the sentence is taken to mean that the subject has gone to the place denoted by the locative phrase with the intention of carrying out the named activity.

It is interesting then to note the differences between the various uses of the Iness3 construction with respect to temporal modifiers. Now the Iness3 in (74) is clearly spatial in nature; the reference is to the location and not to the activity itself. As far as the temporal modifiers are concerned, there is no difference in the behaviour of the Iness3 construction and concrete locative phrases. Consider the examples in (77) in this respect:

- (77) a. Juhani oli uimassa/poimimassa marjoja tunnin.
 Juhani was swim /pick (INESS3) berries hour (ACC)
 'Juhani was out swimming/berry picking for an hour.'
- b. Juhani oli uimassa/poimimassa marjoja
 Juhani was swim /pick (INESS3) berries
 kun Marja soitti.
 when Marja rang.
 'Juhani was swimming/picking berries when Marja rang.'
- c. Juhani oli saunassa/Lontoossa tunnin.
 Juhani was sauna /London (INESS) hour (ACC)
 'Juhani was in the sauna/London for an hour.'
- d. Juhani oli saunassa/Lontoossa.
 Juhani was sauna /London (INESS)
 kun Marja soitti.
 when Marja rang.
 'Juhani was in the sauna/London when Marja rang.'

However, the situation regarding the telic Iness3 construction is not so straightforward; specifically, it is semantically incomplete when occurring with a FOR-adverbial in the following contexts¹⁵:

- (78) a. Marja oli kirjoittamassa kirjettä
 Marja was write (INESS3) letter (PART)
 kun puhelin soi.
 when the phone rang
 'Marja was writing a letter when the phone rang.'
- b. !Marja oli kirjoittamassa kirjettä kaksi tuntia.
 Marja was write (INESS3) letter (PART) two hours
 'Marja was writing a letter for two hours.'

The telic Iness3 is a peculiar construction: it is neither strictly spatial, nor is it dynamic in the sense the corresponding simple past sentence is. Consider, for instance, the following:

- (79) a. Marja kirjoitti kirjettä/ katseli TV:tä.
 Marja write (SP) letter (PART)/ watched TV (PART)
 kun puhelin soi.
 when phone rang.
 'Marja was writing a letter/watching TV
 when the phone rang.'
- b. Marja soitti pianoa/pelasi korttia
 Marja play (SP) piano/play (SP) cards
 koko iltapäivän.
 all afternoon (ACC)
 'Marja played the piano/cards all afternoon.'

¹⁵Interestingly, the Prospective and Ablative constructions behave similarly:

- a. Marja oli avaamaisillaan ikkunan kun puhelin soi!/tunnin
 Marja was open (INF5) window (ACC) when phone rang hour (ACC)
- b. Marja oli juuri tullut saunasta kun puhelin soi!/tunnin.
 Marja was just come sauna (ELAT) when phone rang/hour (ACC)

Thus, since telic simple past sentences project an abstract spatial trajectory, they can occur with WHEN-adverbials without a spatial modifier (79a). Furthermore, since they denote a dynamic process they can, unlike the corresponding Iness3 sentences, also occur with FOR-adverbials (79b). What is more, (78a) can be uttered felicitously even if the letter-writing process was not actually going on when the phone rang; it merely refers to Mary's intention of writing a letter. By contrast, (79a) implies that Mary was actually involved in the letter-writing process when the phone rang.

The Iness3 construction can naturally be used with FOR-adverbials in sentences like (80), which contain a locative expression:¹⁶

- (80) a. Marja oli keittiössä kirjoittamassa
 Marja was kitchen (INESS) write (INESS3)
 kirjettä (koko illan).
 letter (PART) (all evening (ACC))
 'Marja was in the kitchen all evening,
 writing a letter.'
- b. Matti istui verrannalla kutomassa
 koko päivän.
 Matti sat balcony (ADESS) knit (INESS3)
 all day (ACC)
 'Matti sat on the balcony all day, knitting.'

Even sentences like (78a) are normally interpreted as referring to an activity which takes place in the location specified by the previous or subsequent context, as in the following:

¹⁶Ablative and Prospective constructions behave differently in this respect; hence, the unacceptability of the following:

- a. !Marja oli saunassa avaamaisillaan ikkunan tunnin.
 Marja was sauna (INESS) open (INF5) window (ACC) hour (ACC)
- b. !Marja oli juuri tullut saunasta Helsingissä tunnin.
 Marja had just come sauna (ELAT) Helsinki (INESS) hour (ACC)

The difference is that both the Ablative and the Prospective can only refer to a single point in time, while the Iness3 construction can denote a single point, as well as an extended process, if it is accompanied by a locative expression.

- (81) a. Astuin olohuoneeseen.
 I stepped living-room (ILLAT)
 Marja oli kirjoittamassa kirjettä
 Marja was write (INESS3) letter (PART)
 pöydän ääressä.
 table (GEN) edge (INESS)
 'I walked into the living room. Marja was
 writing a letter at the table.'
- b. Lapset olivat katsomassa TV:tä
 children were watch (INESS3) TV (PART)
 kun astuimme olohuoneeseen.
 when we stepped living-room (ILLAT)
 'The children were watching TV when we walked
 into the living room.'

In other words, the process denoted by the Iness3 has to be anchored to a concrete location.¹⁷

What I suggest then is that the telic Iness3 in sentences like (78) is *spatially anaphoric*: it does not fully specify a spatio-temporal entity, but describes an intended activity taking place in some unspecified location. To put it differently, although a telic Iness3 construction projects an abstract spatial trajectory, it is nevertheless semantically incomplete since it does not represent a proper locative construction. What is more, Iness3 does not refer to a dynamic situation in the sense the corresponding simple past construction does.

Another anaphoric construction worth mentioning in this connection is the Instructive case of the 2nd Infinitive (Instr2), which corresponds roughly to the English participial construction. It is most commonly used to denote the manner of an action. Consider the following examples in this respect:

- (82) a. Pekka tuli kotiin itkien.
 Pekka came home cry (INSTR2)
 'Pekka came home crying.'
- b. Marja istui keittiössä lukien kirjaa.
 Marja sat kitchen (ADESS) read (INSTR2) book
 'Marja sat in the kitchen, reading a book.'
- c. Matti makasi sängyllä kuunnellen radiota.
 Matti lay bed (ADESS) listen (INSTR2) radio
 'Mattie was lying on the bed, listening to the radio.'

¹⁷The same thing applies to simple past sentences; thus, (a) is more acceptable than (b):

- a. Marja kirjoitti kirjettä keittiössä
 Marja write (SP) letter (PART) kitchen (INESS)
 kun tulin kotiin.
 when I came home.
- b. Marja kirjoitti kirjettä
 Marja write (SP) letter (PART)
 kun tulin kotiin.
 when I came home.

Instr2 can only occur with dynamic predicates, like those in (82); it is unacceptable in the following sentences:

- (83) a. !Marja oli keittiössä lukien kirjaa.
 Marja was kitchen (INESS) read (INSTR2) book (PART)
- b. !Marja oli pöydän ääressä kirjoittaen kirjettä.
 Marja was table (GEN) edge (INESS) write (INSTR2) letter (PART)

In (82) the predicates are interpreted as referring to a dynamic process, which can be performed in particular manner. By contrast, the copula constructions in (83) express neutral location, hence, cannot be combined with the Instr2.

The difference between Instr2 and Iness3 is that the former expresses manner, while the latter always carries the connotation of intention. Furthermore, unlike the corresponding Iness3 construction, (82a) is notionally equivalent to (84):

- (84) Marja istui keittiössä
 Marja sit (SP) kitchen (INESS)
 ja luki kirjaa.
 and read (SP) book (PART)

To sum up, we can say that the Iness3 construction manifests a gradient between strictly locative uses and non-locative ones. So at the one end we have constructions expressing location proper (*olla uimassa* and *olla hiihtamassa*, 'be swimming, be skiing'). Next come telic constructions (*olla kirjoittamassa kirjettä*, 'be writing a letter', which are associated with boundaries, but nevertheless obtain their spatial reference from another spatio-temporal entity. Finally, we have atelic constructions (*olla leikkimässä pihalla* 'be playing in the garden'), which always require complementation with a locative expression.

6.3.4. Conclusion

We can then divide Finnish (anaphoric) sentences as follows:

- (85) MOVE BE
- BEstay BEpunctual
- BNeutral BEmanner BNeutral BEmanner

MOVE-sentences include simple past sentences involving motion predicates, such as *kavella*, ('walk'), *kirjoittaa* ('write') and *laulaa* ('sing'). BE-sentences involve predicates expressing nonmotion, such as the various copula *olla* ('be') constructions, *pysyä* ('stay'), and *istua* ('sit').

The difference between BEstay and BEpunct is, of course, that the former are 'punctual' in the sense that they refer to a single point in time (*Jussi oli Lontoossa kuudelta* 'Jussi was in London at six'), while the latter are 'durational', referring to an extended situation (*Jussi oli/pysyi Lontoossa viikon*, 'Jussi was/stayed in London for a week'). As we have seen, e.g. Iness3 and Inf5 can only be combined with the punctual BE.

We also have to differentiate between BNeutral and BEmanner sentences. BNeutral sentences are semantically neutral, while BEmanner sentences express the *manner* of location. The latter involve nonmotional dynamic predicates, such as *maata* ('lie') and *seistä* ('stand'). As we have seen, Instr2, as well some essive phrases, can only be combined with BEmanner-sentences. Consider the following sentences:

- (86) a. Pekka istui keittiössä.
 Pekka sat kitchen (INESS)
- b. !Pekka oli keittiössä ja istui.
 Pekka was kitchen (INESS) and sat.
- (87) a. Pekka luki keittiössä.
 Pekka read kitchen (INESS)
- b. Pekka oli keittiössä ja luki.
 Pekka was kitchen (INESS) and read.

I claim that in (86) *istua* denotes a type of location since being and sitting cannot be considered as two separate events (cf. (86b)). By contrast, *lukea* denotes movement: it refers to an event which is separable from the localising event (cf. (87b)).

Thus, we have the following two rules for the use of the FOR-and WHEN-adverbials in Finnish: (1) FOR-adverbials occur in MOVE- and BEstay- sentences, and (2) WHEN-adverbials occur in BEpunctual sentences.

As for the first rule, consider the following examples:

- (88) a. Mikko oli sairaana viikon.
Mikko was ill (ESS) week (ACC)
- b. Jussi pysyi katkerana pitkän aikaa.
Jussi stayed bitter (ESS) long time (ACC)
- c. Matti lauloi/nauroi koko illan.
Matti sang/laughed all night (ACC)
- d. Marja kirjoitti kirjettä tunnin.
Marja wrote letter (PART) hour (ACC)
- (89) a. !Mikko oli kirjoittamassa kirjettä tunnin.
Mikko was write (INESS3) letter (PART) hour (ACC)
- b. !Marja oli hukkumaisillaan minuutin.
Marja was drown (INF5) minute (ACC)
- c. !Jussi oli tullut saunasta minuutin.
Jussi was come sauna (ELAT) minute (ACC)

As we have seen, sentences involving a copula construction can be either BEstay or BEpunctual, so (88a), as well as (88b), are BEstay-sentences, while (88c) and (88d) are clearly MOVE-sentences. Thus, BEstay and MOVE-sentences form a subclass: both are dynamic; hence, can be used to refer to an extended situation. By contrast, the copula construction in all the sentences in (89) refers to a punctual situation, which is why it cannot be combined with the FOR-adverbial.

As for the second rule, consider the following:

- (90) a. Matti oli Lontoossa kun se tapahtui.
Matti was London (INESS) when it happened
- b. Marja oli uimassa kun tulin kotiin.
Marja was swim (INESS3) when I came home
- c. Mikko istui verrannalla kun tulin kotiin.
Mikko sat balcony (ADESS) when I came home
- d. Pekka lauleli kylpyhuoneessa viideltä.
Pekka sang (IMPERF) bathroom (INESS) five (ABL)
- (91) a. !Matti oli katkerana/köyhänä koko talven.
Matti was bitter/poor (ESS) all winter (ACC)
- b. !Marja oli nauramassa kahdelta.
Marja was laugh (INESS3) two (ABL)
- c. !Poika lauleli kun saavuin kotiin.
boy sang (IMPERF) when I got home

All the BE-sentences in (90a-c) are classified as BEpunctual since they occur with a WHEN-adverbial. It is further assumed that in (90d) the MOVE-sentence, *Pekka lauleli*, is related to the BE-sentence, *Pekka oli kylpyhuoneessa*, which is punctual. The general rule is then that the WHEN-adverbial can only combine with spatially complete sentences; hence, the unacceptability of the sentences in (91).

One thing to note is that the MOVE-sentences discussed in this section are all anaphoric; however, naturally we can also have deictic MOVE-sentences. The general schemata for the two main sentence types (anaphoric and deictic) is then as follows:

- (92) a. MOVE(Entity, (Source), Goal)
 b. BE (Entity, Loc)

The difference between an anaphoric and deictic MOVE-sentence is that the former is related to a BE-sentence, which is in turn related to a temporal antecedent, whereas the latter occurs autonomously. These two kinds of MOVE-sentences can be represented as follows:

- (92)
- anaphoric: Pekka lauleli kylpyhuoneessa viideltä:
 Pekka sang (IMPERF) bathroom (INESS) five (ABL)
- BET {BES [MOVE (E=Pekka), Loc=kylpyhuone], Time=viisi}
- deictic: Pekka tuli kotiin maanantaina.
 Pekka came home Monday (ESS)
- BET {MOVE (E=Pekka, Goal=koti), Time=maanantai}

The important thing to note is that the arguments of the MOVE- and BE-predicates can represent both concrete and abstract entities. I shall return to this issue in the next chapter, where a detailed discussion of the representations is provided.

Chapter Seven

Spatio-temporal Structure of Narratives

7.1. Introduction

We have divided (semantic) tenses into **deictic**, and **anaphoric**, arguing that the former introduce a temporal interval, while the latter are evaluated with respect to some previously (or subsequently) established temporal interval. Although this division of tenses is relevant to the interpretation of texts as well, it should be noted that, strictly speaking, the term 'deictic' is inappropriate for narrative tenses as they do not refer to the speech time, but to some arbitrary past time established by the narrative. Because of this qualification, I propose to use the terms **autonomous** and **non-autonomous** for deictic and anaphoric tenses, respectively.

A number of authors have discussed the autonomous-nonautonomous distinction, using different terminology. For instance, following Benveniste, 1966, Lyons (1977) distinguishes two kinds of conception of time: historical and experiential.¹ 'Historical' refers to the narration of events, ordered in terms of successivity, and presented objectively, and non-deictically. 'Experiential' on the other hand, refers to a description that might be given by someone who is personally involved in what he is describing, so this mode is related to the deictic and subjective conception of time.

Benveniste assumes that experiential and historical are two different *genres*, the former occurring in spoken and the latter in written texts, especially in narratives. However, as e.g. Caenepeel (1989) has pointed out, it is important to note that we are *not* talking about different genres, but two different *modes*; both historical and experiential modes occur within narratives.

¹Benveniste (1966) uses the terms 'histoire' and 'discours' for this distinction.

Caenepeel then distinguishes sentences with 'objective' (perspectively non-situated) and 'subjective' (perspectively-situated) function. The former describe a series of events from a purely objective perspective, while the latter view the narrative from a particular (spatial/temporal/attitudinal) position, which Caenepeel terms 'the perspective of a subject-of-consciousness'. This perspective may be that of the narrator or some other character in the narrative.

Example (1) contains a piece of narrative in the objective mode:

- (1) John walked in, sat down, and took off his boots.

In example (2), the (b)- and (c)-sentences are subjective, while the objective (a)-sentence functions as a focalising sentence:

- (2) a. John looked out of the window.
b. The children were playing outside.
c. The children had built a sandcastle.

In other words, the (b) and (c) sentences represent the named states of affairs from John's point of view, as they are perceived by him.

Furthermore, Caenepeel claims that the majority of sentences identified as 'subjective' exhibit a particular discourse-level property: they do not introduce a temporal update, while the so-called 'objective' sentences do update the narrative. Consider the following example:

- (3) a. She raised her hand (E1)
b. and smoothed her hair: (E2)
c. it was wet at the hairline. (E3)

(3a) and (3b) represent objective sentences, and are interpreted as moving the narrative time, while (3c) is a subjective sentence, which describes the narrative at the previously established temporal interval.

Hopper, 1979 discusses the same objective-subjective distinction, using the terms 'foreground' and 'background'. According to him, sentences in the foreground (the main line) describe events which succeed one another in the narrative in the same order as their succession in the real world, while the backgrounded events are interpreted as being concurrent with them. Hence, the latter usually amplify or comment on the events on the main narrative. Moreover, the backgrounded events are not sequenced with respect to one another and the relationships between them are often quite loose.

Hopper further claims that foregrounded sentences denote completed (in many cases punctual) events, while backgrounded sentences are vague with respect to

completion. (This, of course, ties up with the autonomous-nonautonomous distinction discussed in some detail in the previous chapters). Therefore, the former sentences tend to refer to dynamic and the latter to stative situations.

Finally, Hopper points out that the focus structure is different in the two sentence types. In foregrounded sentences, the topic remains the same across an episode; thus, the topics (subjects) are given, and the new material in the story is introduced in the predicate. Moreover, the topics tend to refer *humans*. In backgrounded sentences, by contrast, topic changes are frequent; furthermore, topics are not restricted to human entities. (As we shall see in Section 7.4.4.2., this is precisely the focus structure associated with Finnish narrative texts).

In the remainder of this chapter, I shall examine the notion of 'narrative movement', i.e. the shifting of the temporal focus in narrative. Specifically, I shall discuss the possibility and desirability of separating temporal (semantic) and nontemporal (pragmatic) relations between two consecutive clauses, focusing on the following two claims:

1. The main distinction is that between autonomous and nonautonomous sentences; only the former can be used to move the narrative forward, and further, autonomy is determined on the basis of completion/termination and not on the basis of notions such as contingency and causality.
2. It is necessary to distinguish two kinds of contingency relations associated with clauses expressing temporal movement in narrative, which can be represented schematically as follows²:

(4)

1. nontemporal relation: [e1] <=> [e2]
2. spatio-temporal movement: --[e1]--=>--[e2]---->

Before discussing the first claim in Section 7.3.1., and the second one in Section 7.3.2, I shall outline one theory of narrative movement and causality, viz. that by Moens and Steedman (1988) and Caenepeel (1989).

²The diagrams in this section are one-dimensional, conflating the spatial and temporal dimensions. We should, however, bear in mind that the basic assumption here is that movement in space correlates with movement in time.

7.2. The Notion of Contingency Structure

We have already encountered the event (dynamic) and state (nondynamic) distinction when discussing the effect of *aktionsart* on narrative movement in Chapter Two (cf. Hinrichs, 1986). Thus, the general rule that event sentences move the narrative forward, while stative sentences do not, seems to be well accepted in current linguistic theories.

This view of narrative movement is based on the assumption that events happen in a strict succession, but are not related to one another in any other way. However, there is an alternative view, fashionable especially in the fields of Cognitive Science and Artificial Intelligence, according to which the semantics of temporal expressions is *not* directly related to the linear time concept. For example, Moens and Steedman (1988) discuss the semantics of *when*-clauses in the following sentences (from Moens and Steedman, 1988:15):

- (5) When they built the 39th Street bridge...
a. ... a local architect drew up the plans.
b. ... they used the best materials.
c. ... they solved most of their traffic problems.

Moens and Steedman claim that if we adopt a linear time model, we will have to argue that *when* is ambiguous: In (5a) the event described in the main clause is interpreted as preceding the *when*-clause event; in (5b) it overlaps the *when*-clause event, while in (5c) it is interpreted as following the *when*-clause event. Alternatively, we would have to claim that the relation between the *when*-clause and the main clause events is one of "approximate coincidence". Moens and Steedman also argue that the linear model cannot explain the unacceptability of sentences like (6) (from Moens and Steedman, 1988:16):

- (6) #When my car broke down, the sun set.

For these reasons, Moens and Steedman argue that *when*-clauses express something more than a mere temporal relation, viz. some **contingency** relation, which can be a *causal* relation, i.e. *strict contingency* (the state of affairs described in the first clause causes the state of affairs described in the second one), or an *enablement* relation, i.e. *weak contingency* (the state of affairs described in the first clause creates appropriate conditions for the state of affairs in the second clause). They further argue that this contingency relation is neither purely temporal, as (5) illustrates, nor purely causal, as is made clear by the following example:

- (7) a. When John left, Sue cried.
b. When Sue cried, her mother got upset.
c. When John left, Sue's mother got upset.

The point is that we cannot infer (7c) directly from (7a) and (b).

Moens and Steedman claim then that the temporal structure of discourse can only be described in terms of a contingency-based **event structure** (a nucleus), which is a structure consisting of a culmination, a preparatory phase and a consequent phase.³ So the apparent ambiguity of *when* in (5) is resolved if we claim that in (5a) the event described in the the main clause refers to the preparatory phase of the event structure associated with the *when*-clause; in (5b) it refers to the entire event structure, while in (5c) it refers to the consequent state of the *when*-clause event. Furthermore, we can now argue that (6) is unacceptable because the two events cannot be contingently related; in other words, the main clause cannot be interpreted as referring to any of the component phases (preparatory, culmination, consequent) of the event structure associated with the *when*-clause.

Moens and Steedman also use the notion of contingency to account for the movement of the temporal focus in discourse. This has been discussed in detail by Caenepeel (1989), who has applied Moens and Steedman's theory to the temporal interpretation of narrative fiction. In Caenepeel's account, the notion of contingency is referred to as **consequentiality**, which embraces two relations: (1) nontemporal (contingency à la Moens and Steedman, 1988) and (2) temporal (temporal ordering, especially temporal progression). Specifically, she claims that a narrative is updated only if two events are contingently related. Consider the example in (8):

- (8) a. Mary put the envelope in her pocket (E1)
 b. and went out. (E2)

According to Caenepeel, E1 in (8a) is interpreted as creating appropriate conditions for (i.e. enabling) E2 in (8b), hence the narrative time is perceived as moving forward. If no such contingency relation can be detected between two events, the narrative is not updated. This is exemplified by (9):

- (9) a. Mary wrote a letter (E1)
 b. and John mowed the lawn. (E2)

where E1 and E2 are most naturally interpreted as describing the same temporal interval (e.g. *That afternoon, Mary wrote a letter and John mowed the lawn*).⁴

In some cases, a state, too, may be followed by an event which is contingently related to it. Consider, for instance, the following:

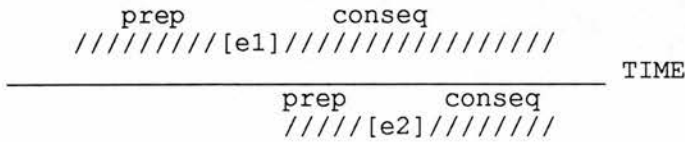
³The notion of 'contingency', as well as Caenepeel's 'contingent states' have to be distinguished from the notion of contingent (temporary) states discussed in the previous chapters.

⁴I am ignoring here reference times and other technicalities involved in Caenepeel's theory.

- (10) a. When they reached the lift, (E1)
 b. Mary was coughing. (E2)
 c. John frowned. (E3)

According to Caenepeel, (10b) and (10c) are contingently, and hence sequentially, related since E2 can be interpreted as causing E3. Thus, in Caenepeel's system, the relation between (8a) and (8b), and that between (10b) and (10c) would be represented in an identical manner, i.e. the event described by the first clause is associated with relevant consequences, and the event described by the second one is placed within them.⁵ This can be represented schematically as follows:

(11)



where "prep" represents the preparatory phase, and "conseq", the consequent phase, associated with E1 and E2 on a timeline.

7.3. Temporal and Nontemporal Relations

7.3.1. Predicate Type and Autonomy

As we have seen, autonomous sentences describe a situation as being completed/terminated, while nonautonomous ones are vague with regard to completion/termination. Whether a sentence is autonomous or nonautonomous is mainly determined by predicate type and/or the grammatical form of the verb. For example, both (12a) and (b) are autonomous (two culmination expressions combined with the simple past); in (13b) the nonmotional predicate *look*, and in (14b) the progressive form *was writing a letter*, indicate that the clause is nonautonomous:

⁵Caenepeel would argue that the difference between (8) and (10) is that the second clause in the latter has to be *coerced* into a contingent category. In other words, their derivational paths are different, but this does not alter the fact that the resulting representations are identical.

- (12) a. John entered the room. (E1)
 b. Mary got up. (E2)
- (13) a. John entered the room. (E1)
 b. He looked harassed. (E2)
- (14) a. John entered the room. (E1)
 b. Mary was writing a letter. (E2)

Furthermore, nonautonomous sentences always express simultaneity with respect to a previously established reference point, so E2 is interpreted as overlapping E1 in (13) and (14). The relative order of two autonomous clauses (e.g. (10a) and (b)) is in turn determined by the temporal properties associated with the propositions, (such as the event structure and temporal adverbials), and in some cases it depends on purely pragmatic factors.

I claim then that

1. autonomy correlates with completion/termination, rather than with consequentiality, and
2. only autonomous sentences can move the narrative forward.

Consequently, I assume that point expressions are interpreted similarly to culminations with respect to narrative movement. Consider, for example, the following sentence:

- (15) a. John put away the book (E1)
 b. and got up. (E2)
- (16) a. John shrugged (E1)
 b. and got up. (E2)
- (17) a. John winked (E1)
 b. and gave me the book. (E2)

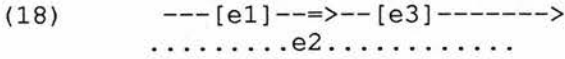
According to Moens and Steedman, *shrug* and *wink* are typical point predicates, which are not associated with relevant consequences. However, my claim is that since the point sentences in (16a) and (17a) are autonomous, they can, just like the culmination sentences in (15), move the narrative forward. So 'moving the narrative forward' and 'having consequences' can be said to be two independent properties of sentences. Moreover, I argue that this particular interpretation is arrived at on the basis of the semantics of the sentences; the sentences (16a) and (17a) do not have to be 'coerced' into a culmination.⁶

⁶Caenepeel claims that the first proposition in *Jeany burped and we put her to bed*, is coerced into a culmination as it is followed by a proposition which is contingently related to it. However, my argument is that we do not have to invoke the principle of coercion to explain why the second clause updates the narrative; the narrative is perceived as moving since both clauses denote a terminated event.

Secondly, I claim that in example (10), repeated here:

- (10) a. When they reached the lift, (E1)
- b. Mary was coughing. (E2)
- c. John frowned. (E3)

(10b) does not play any role in the updating of the narrative although there may well be a causal link between E2 and E3. However, this causal relation should not influence the temporal one, which determines that E2 overlaps E1, and E3 succeeds E1. Thus, I argue that the relation of E1 and E2 in (10) is identical to that in (14), and (10) can then be represented schematically as follows:



Consider, too, the following example:

- (19) a. The man had fair hair. (E1)
- b. Mary frowned. (E2)

In Caenepeel's terminology, (19a) represents a nonrestrictive state: it describes the situation as "intrinsic to the world"; it cannot be associated with consequences since this would imply that the situation has come to an end.⁷ However, it is perfectly possible to interpret E2 as being caused by E1 (maybe Mary only approves of dark men, or she was expecting to meet a dark one). It seems to me then that the causality link between E1 and E2 in (19) is identical to that between E2 and E3 in (10); however, since (19a) is clearly an atemporal proposition, causality seems to have nothing to do with temporality in this particular case. (19) then provides further evidence for distinguishing temporal and nontemporal relations.

7.3.2. Contingency Relations and Narrative Movement

In Chapter Five we distinguished two types of causes: those representing second-order entities (e.g. *Rain stopped play*), and those representing third-order entities, i.e. reasons (e.g. *Bob was angry when I hit him*). In the former case the causality link is expressed linguistically, while in the latter case it is pragmatically determined. In this section, I shall discuss different kinds of contingency relations between two consecutive clauses in discourse.

Consider the following examples:

⁷In the example *John had once been a man but then he decided to undergo a sex change operation*, the nonrestrictive state *be a man* can be associated with consequences since the situation it describes has come to an end. However, (19) does not describe such a situation, hence it cannot be culminated.

- (20) a. Mary left (E1)
 b. and John cried. (E2)
- (21) a. John cried and (E1)
 b. Mary left. (E2)
- (22) a. Mary washed the car (E1)
 b. and John did the dishes. (E2)

In (20) and (21), the descriptive order of the clauses reflects the temporal order of the events, i.e. E1 is interpreted as causing E2; hence E2 follows E1 in both cases. By contrast, the most natural (ex-context) interpretation for (22) is that the temporal order of E1 and E2 is indeterminate, i.e. the two events interpreted as describing the same temporal interval (*That afternoon, Mary washed the car and John did the dishes*). It is, however, possible to think of a context where a contingency link can be established between E1 and E2 in (22), too (e.g. Mary had promised John that she would wash the car if he did the dishes). In this latter case then E2 is interpreted as following E1.

Thus, it is clear that the notion of contingency plays a role in the temporal interpretation of narratives. However, we have to distinguish two kinds of contingency relations, *pragmatic* and *spatio-temporal*.

The Pragmatic contingency relation is concerned with the interaction of two agents, as in (23), or with the causality link between an agent and a situation, as in (24):

- (23) a. Mary walked in (E1)
 b. and John walked out. (E2)
- (24) a. Mary was feeling cold. (E1)
 b. She put a jumper on. (E2)

(23) has at least three possible interpretations:

1. E1 and E2 occur simultaneously (e.g. at 5 pm, Mary walked in and John walked out).
2. E2 is caused by E1; hence, naturally E2 follows E1.
3. The order is indeterminate, in which case E1 and E2 describe the same temporal subinterval.

The corresponding (informal) representations are:

(25)

1. Pragmatic: e1, e2 (Non-contingent)
Temporal: $\begin{array}{c} [e1] \\ \text{-----} \\ [e2] \end{array} \rightarrow$ (Simultaneous/Indeterminate)
2. Pragmatic: e1 \Leftrightarrow e2 (Contingent)
Temporal: $\begin{array}{c} [e1] \quad [e2] \\ \text{-----} \end{array} \rightarrow$ (Succession, inception)

The same applies to (24): if no contingent relation can be detected between E1 and E2, E1 is interpreted temporally as overlapping E2; if a contingent relation can be established, E2 is interpreted as succeeding E1. In both cases then the temporal interpretation of the two consecutive clauses is pragmatically determined.

As for spatio-temporal contingency, the two consecutive clauses describe the movement of a subject in space and time. Further, the subject of the first clause is always identical with that of the second one. This seems to correspond to the enablement relation discussed in Section 7.2, and is exemplified by (26):

- (26) a. Mary walked in
b. and sat down.
- (27) a. John took the letter out of his pocket
b. and handed it to Bill.
- (28) a. Mary knocked over the vase
b. and broke it.
- (29) a. John slipped on a banana skin
b. and fell.

which can be represented informally as follows:

(30)

----[e1]---=>--[e2]---->

In this case, we can work out the temporal relation between the two clauses on the basis of the semantics of the predicates/clauses involved (two autonomous sentences expressing spatio-temporal movement).

Two things should be noted here. First, the interpretation of temporal progression can be regarded as a *default* interpretation in the sense that it is the linear order of the clauses, plus the conjunction *and*, that creates the impression of narrative movement. In examples like (26) progression is the only acceptable interpretation, but this is not always the case. For instance, the ordering of the clauses can be indeterminate, as in the following:

- (31) a. That afternoon, John fixed the radio
 b. and ironed his shirts.

Similarly, in (32-34) it is possible to interpret E1 and E2 as occurring more or less simultaneously:

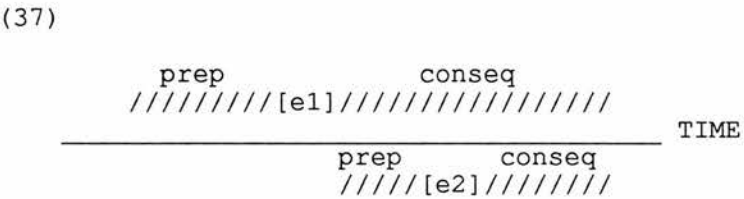
- (32) a. Mary winked (E1)
 b. and picked up the parcel. (E2)
- (33) a. "Wait!" John shouted (E1)
 b. and got up. (E2)
- (34) a. Bill gave a sigh (E1)
 b. and handed over the book. (E2)

However, in the absence of a suitable temporal localiser, two autonomous clauses denoting two separate events are normally interpreted as occurring in a succession. For one thing, if there is a clear overlap relation between two clauses, it is not even possible to conjoin the two clauses:

- (35) a. Mary ate the soup using a teaspoon.
 b. #Mary ate the soup and used the teaspoon.
- (36) a. Mary came in carrying a suitcase.
 b. #Mary came in and carried a suitcase.

Second, the degree of overlap (or spatio-temporal relatedness) between the events varies, and depends on the kind of events referred to. For instance, E1 and E2 in (26) are relatively discrete, while in (28) and (29) they are more closely related, the degree of overlap between the events being greater. In fact, I shall argue below that there is a continuum between spatio-temporal relations expressing movement (discreteness), and those expressing total overlap.

We can now see that the problem with the account of narrative movement proposed by Moens and Steedman (1988), and Caenepeel (1989) is that it cannot distinguish between the different kinds of contingency relations. In their account, (23) (the second interpretation), (26) and (29) are all assigned the following representation:



In other words, Moens and Steedman, and Caenepeel claim that E1 makes available certain consequences and E2 is placed within them, regardless of whether

E1 actually causes E2, or merely in some vague sense enables it. However, my argument is that if a contingency structure is used to represent the pragmatic causality relation, it cannot be used to represent spatio-temporal movement as well.

The problem is, of course, that the differences between the clauses are blurred by the similarity of the conjoined structures. I shall now look briefly at two linguistic phenomena supporting the claims made in this section, viz. *when*-clauses and participial clauses.

7.3.3. *When*-clauses

The purpose of this section is *not* to provide an exhaustive analysis of *when*-clauses, but to illustrate the differences between spatio-temporal and pragmatic contingency.

Consider first the sentences in (28), which exemplify the pragmatic contingency relation:

- (38) a. When Mary left, (E1) John cried. (E2)
b. When John entered the room, (E1) Mary got up. (E2)

and contrast them with the sentences in (39) exemplifying spatio-temporal movement:

- (39) a. ?When Mary went to the window, (E1)
she looked out. (E2)
b. ?When Mary sat down, (E1)
she took off her boots. (E2)
c. ?When Mary entered the room, (E1) she sat down. (E2)
d. ?When Mary got up, (E1) she left the room. (E2)

As Moens and Steedman (1988) point out, *when* brings into focus the entire event structure (nucleus) associated with the clause. Furthermore, the subject of the *when*-clause seems to be located inside this event. Since a person cannot be in two places simultaneously, the main clause can only be interpreted as describing the same temporal interval as the *when*-clause in examples like (39), where *Mary* is assumed to be coreferential with the *she* in the main clause. This means that E2 has to be interpreted as elaborating E1 (e.g. describing its manner), which is a pragmatically odd interpretation for the sentences in (39). In contrast, the *when*-construction is possible in (38) because the examples involve *two* protagonists, and hence their *precise* spatio-temporal location is not so crucial; E2 can be interpreted as occurring simultaneously with, or just after, E1.

It seems that where a clear overlap relation holds between E1 and E2, the *when*-construction is perfectly acceptable, as in the following:

- (40) a. When Mary ate the soup, (E1)
 she used a tea spoon. (E2)
- b. When Mary tilted her head, (E1)
 she revealed a set of decaying teeth. (E2)

In (40a) E2 is included in E1, and in (40b) E2 is the direct result of E1. In both cases, the *when*-clause and the main clause seem to describe the same event.

If, however, the narrative time is perceived as moving (however slightly) from E1 to E2, the *when*-clause is less acceptable, as in (41):

- (41) a. ?When Mary slipped, (E1) she fell. (E2)
- b. ??When Mary went to the window, (E1)
 she opened the shutters. (E2)
- c. ??When Mary tore the letter up, (E1)
 she put the pieces in the bin. (E2)

In this case, E1 and E2 represent two separate events. It seems that the more (spatio-)temporally remote the two events are, the less acceptable the *when*-construction is, and *vice versa*.

My claim is then that Moens and Steedman, and Caenepeel are unable to explain why the sentences in (38) and those in (40) are perfectly acceptable, while those in (39) and (41) seem strange. In their terminology, E1 and E2 in all these sentences are somehow contingently related; however, what we need to know is why the main clause event in (39) and (41) cannot refer to the 'consequent state' associated with the *when*-clause event.

7.3.4. Participial Constructions

The ING-participle in English can express (among other things) the *manner* in which the event described in the main clause is carried out:

- (42) a. Mary ate the soup, (E1) using a tea spoon. (E2)
b. Mary entered the kitchen, (E1)
 carrying a heavy suitcase. (E2)

In this case, there is a clear overlap relation between the main clause and the participial construction. There are also cases in which both clauses are autonomous, but the events they refer to can be interpreted as overlapping:

- (43) a. Mary winked, (E1) getting up. (E2)
b. "OK", Mary said, (E1) handing me the book. (E2)

However, it is clear that the two clauses do not refer to the same event, but two separate events; hence E2 does not describe the manner of E1.

The ING-participle can also have a *result* reading, as in (44a), (b) and (c), or a *purpose* reading, as in (44d) and (e):

- (44) a. Mary slipped on a banana skin, (E1) falling. (E2)
b. Mary knocked over the vase, (E1) breaking it. (E2)
c. Mary tilted her head, (E1)
 revealing a set of decaying teeth. (E2)
d. Mary tore the letter up, (E1)
 putting the pieces in the bin. (E2)
e. Mary went to the window, (E1)
 opening the shutters. (E2)

Since the participial clauses in (44) express (loosely speaking) the result or purpose of the event described in the main clause, the two clauses create the impression of temporal progression. However, there is clearly also a degree of temporal overlap between the two events, and to what degree they are perceived as overlapping depends on the semantics of the clauses involved. So in (44a-c) it is not really possible to say where E1 ends and E2 begins; in some sense E1 constitutes E2. By contrast, in (44d) and (e) there is a more clear-cut separation between E1 and E2; we might say that E2 begins where E1 ends.

I suggest that the two events in the examples in (44) form a unit, a *complex event*; they are so closely related, spatio-temporally (hence, semantically) that it is not really possible to regard them as two discrete events. The following are then the possible overlap relations between two clauses forming a complex event:

(45)

1. TOTAL OVERLAP: E2 redescribes (elaborates) E1.
(example (42))
2. PARTIAL OVERLAP: E2 follows E1 but the movement is *continuous* in the sense that no extra energy is required to produce E2; E1 automatically leads to E2.
(examples (44a, b and c))
3. MINIMAL OVERLAP: E2 follows E1 but the movement is *continuous* in the sense that E2 begins where E1 ends, although extra energy is required to produce E2.
(examples 44d and e)

Of course, in referring to 'overlapping events', I am not necessarily talking about the *actual* temporal properties of the situation in question, but about the perception, and linguistic representation of such a situation. Similarly, the notion of 'energy' in (45) refers to an *abstract* property associated with the meaning of certain types of participial clauses. These different overlap relations can be represented (informally) as follows:

(46)

1. 42a. (inclusion): [-e1-]
 -e2-
- 42b. (overlap): [e1]
 ...e2....
2. 44a, b, and c.
 (partial overlap): [e1
 e2]
3. 44d and e.
 (minimal overlap): [e1
 e2]

Note, too, that there is often an overtly marked anaphoric link between two elements in a complex event construction. For instance, in (44d) *the pieces* is anaphorically related to *the letter*, and in (44e) *the shutters* to *the window*.

I claim then that the participial construction is only acceptable if E1 and E2 can be interpreted as overlapping, at least partially, i.e. if they can be interpreted as forming some kind of a semantic unit. Contrast now the examples in (44) with those in (47):

- (47) a.?Mary walked in, (E1) sitting down. (E2)
 b.?Mary sat down, (E1) taking off her boots. (E2)
 c.?Mary switched off the TV, (E1)
 picking up the paper. (E2)
 d.?Mary cooked the dinner, (E1) going out. (E2)

I suggest that all the sentences in (47) are decidedly odd because E1 and E2 represent two totally separate events; in other words, they are *discontinuous* spatially and temporally, hence the event described in the participial clause cannot be interpreted as overlapping, even partially, with the main clause event.

Consider, too, the following:

- (48) a. Mary took her boots off, (E1)
 placing them under her chair. (E2)
 b.?Mary took her boots off, (E1)
 placing her bag under her chair. (E2)

(48a) describes continuous movement: Mary takes off her boots, holds them in her hands and puts them under the chair. (Note again the anaphoric relation between *her boots* and *them*). By contrast, (48b) does not describe such spatio-temporal continuity (Mary has to get rid of her boots before she can deal with her bag); hence, the participial construction is unacceptable.

In fact, there seems to be a continuum between sentences expressing spatio-temporal overlap and those expressing movement: at one end we have examples like (42), which describe a complete overlap relation; next come sentences in (44a-c), which describe a partial overlap relation; (44d) and (e) describe events which are even more separable, and at the other extreme we have sentences like (47) and (48b), expressing discontinuous spatio-temporal movement.

The problem with Moens and Steedman's, and Caenepeel's account is then that they do not allow for these finer distinctions but are forced to treat all cases of temporal progression identically. Consequently, they cannot account for the behaviour of the participial constructions in examples (42) - (48). According to their theory, both (48a) and (b) (or rather, the conjoined variants: *Mary took her boots off and placed them under her chair* and *Mary took her boots off, and placed her bag under the chair*) are examples of the 'enablement' relation (E1 creates appropriate conditions for E2). However, as is illustrated by the participial constructions in (48a) and (b), their spatio-temporal structures are not identical, and should, therefore, be assigned different representations. Similarly, *They built the bridge and solved all the traffic problems* and *Mary got up and went out* have to be treated identically in Moens and Steedman's approach, although it is clear that the two examples have quite distinct spatio-temporal structures.

Of course, the use of the participial construction is a complex issue, its acceptability depending on such discourse-related factors as style. It is, nevertheless, clear that the notion of contingency proposed by Moens and Steedman (1988) and Caenepeel (1989) is far too vague to be of any interest when discussing the semantics of the various kinds of participial clauses.

7.3.5. Spatio-temporal and Pragmatic Relations

Let's now return to example (5), repeated here:

- (5) When they built the 39th Street bridge...
a. ... a local architect drew up the plans.
b. ... they used the best materials.
c. ... they solved most of their traffic problems.

Since the *when* construction is acceptable in all the sentences in (5), I claim that E1 and E2 stand in a clear overlap relation (cf. (40) above); in fact, in all three cases E2 is included in E1. In (5a) E2 constitutes a subevent of E1. (Note, too, the anaphoric link between *the plans* and *the bridge*); in (5b) E2 describes the manner in which E1 is performed, (cf.(40a)), while in (5c) E2 is the direct consequence of E1; they do not represent two totally separate temporal entities. ((5c) is then identical to e.g. ((40b) in this respect).

I agree that *when* is not ambiguous; however, it seems to me perfectly acceptable to argue that the relationship between a *when*-clause and its main clause is "one of approximate coincidence", and that the precise nature of this simultaneity relation depends on the semantic class of the propositions involved, and on various contextual factors.

It is also clear that *when* can predicate something other than a mere temporal relation; it can, for example, express 'concession', as in (49):

- (49) How can you treat me so badly
when I've done so much for you?

Similarly, as we have seen, in addition to the purely temporal (overlap) relation, the participial construction can express various nontemporal semantic relations, including 'manner' and 'result'. In many cases there is some indeterminacy as to the precise semantic relation to be inferred between the participial and the main clause. Consider the following (from Quirk and Greenbaum, 1973:330):

- (50) John went to Mexico, feeling considerable anxiety.

The participle can express a purely temporal (overlap) relation (*When John went to*

Mexico he was feeling considerable anxiety), or a causal relation (*John went to Mexico because he was feeling considerable anxiety*). However, it seems clear to me that the temporal relation is the more primary one; all the nontemporal relations are 'superimposed' on it. For instance, a causal relation between two events naturally presupposes that they are also spatio-temporally related, i.e. that they overlap, at least partially.

It is, of course, perfectly legitimate to postulate contingency structures to account for nontemporal (e.g. causality) relations between two events. However, we then require another sort of mechanism to deal with spatio-temporal location or movement. For instance, contrast (5c) with (51):

- (51) ?When they built the bridge, (E1)
they emigrated to Australia. (E2)

where the subject of the *when*-clause is assumed to be coreferential with that of the main clause, and the intended interpretation is that E2 succeeds E1. Our theory needs to explain why the sequential ordering of E1 and E2 in (51) has to be expressed explicitly, e.g. by using the past perfect (*When they had built the bridge...*), while the nontemporal contingency relation between E1 and E2 in (5c) can be subsumed under the temporal overlap one.

Contrast (51) also with (6), which is repeated here:

- (6) #When my car broke down, the sun set.

My claim is that (51) and (6) are unacceptable for completely different reasons; the former because the main clause event cannot be interpreted as overlapping the *when*-clause, and the latter because it is simply an irrelevant, or nonsensical utterance in most contexts. Note that (51) violates the semantic rule stating that there must be a temporal overlap relation between a *when*-clause (in simple aspect) and its main clause, while (6) is perfectly well-formed temporally (E1 and E2 can be interpreted as occurring more or less simultaneously, or E2 just after E1), if only we could think of a context in which it makes sense.

7.4. My System

7.4.1. Introduction

In this section, I shall analyse the spatio-temporal structure of Finnish narratives within the sort of framework introduced in Chapter Six. Before presenting my own system, I shall outline Talmy's (Talmy, 1985) work on motion events.

According to Talmy, a 'motion event' consists of four internal components:

- (51) 1. Figure
- 2. Ground
- 3. Path
- 4. Motion

The Figure is the object which is moving with respect to another object, called the Ground, while the Path is the course followed, or the site occupied, by the Figure with respect to the Ground. Finally, 'Motion' simply refers to the presence of motion or location, which can be represented by the MOVE and BEloc functions, respectively.

In addition to these internal components, a motion event can be associated with *external* components, such as Manner, Cause, and Purpose, which Talmy analyses as constituting distinct external events.⁸ Consider the following examples:

- (52) a. The pencil rolled off the table.
- b. The pencil blew off the table.
- (53) a. The pencil lay on the table.
- b. The pencil stuck onto the table.

The pencil functions as the Figure, and *the table* as the Ground in all the sentences in (52) and (53), while the prepositions *on* and *off* express the Path (a course and a site, respectively). The verbs *roll* and *blow* in (53) express Motion, while *lie* and *stick* in (54) express Location. In addition to expressing the fact of Motion, Talmy argues that both *rolled* in (52a) and *lay* in (53a) express a Manner, while *blew* in (52b) and *stuck* in (53b) express a Cause.

Talmy further considers the following examples of conflation (i.e. cases where the verb root expresses both the fact of Motion and one (or two) of the other semantic components):

⁸According to Talmy, only *non-motion* verbs incorporate a Purpose; for example, *wash* has the meaning "apply liquid in order to clean". However, in my system verbs like *wash* can be classified as 'motion' verbs, expressing abstract movement (telic activity).

- (54) 1. Motion + Path: John entered the room.
2. Motion + Figure: John spat on the floor.
3. Motion + Ground + Path: John shelved the books.
4. Motion + Figure + Path: John powdered his nose.

I shall assume that the term 'motion event' can refer to situations describing all kinds of abstract movement and location discussed above, including states and telic activities. However, it is clear that sentences describing concrete location/movement form the 'backbone' of the narrative structure in the sense that the interpretation of all other sentence types is dependent on them. It can then be said that the basic notions of Location and Movement constitute the 'internal' (semantic) components of the temporal structure of narratives, while notions such as causality, manner and purpose constitute the 'external' (discourse) components.

Talmy is primarily interested in the *lexicalisation* of motion events; however, I shall draw on his terminology and theoretical insights, extending them to the analysis of the spatio-temporal structure of sentences in discourse. The main difference between my and Talmy's system is then that I introduce the notion of 'motion event' at various different levels of analysis. Furthermore, as we shall see, unlike in Talmy's theory, the notion of 'goal' plays an important role in my system.

7.4.2. *The Autonomous-Nonautonomous Distinction*

7.4.2.1. *Autonomous Sentences*

As we have already established, autonomous tenses are not strictly speaking deictic, but 'non-anaphoric': they introduce a spatio-temporal entity, i.e. an event occurring at a particular spatio-temporal interval, with respect to which other clauses can be interpreted.

The Basic Rule rule is as follows: Autonomous clauses move the narrative time forward, and non-autonomous clauses describe the narrative at a previously/subsequently established time.

The main hypothesis is that there is a direct correlation between the movement of the protagonist with respect to the Ground, and the movement of narrative time. In other words, it is assumed that every time a motion event is completed, i.e. when a 'border' is crossed and the goal is reached, a temporal update is introduced in the narrative. However, not all autonomous clauses behave identically with respect to narrative movement.

Concrete movement represents the clearest example of narrative movement:

- (55) a. The man walked in (E1)
b. and sat on the edge of the bed. (E2).
- (55') a. Mies astui sisään (E1)
man stepped in (ILLAT)
b. ja istuutui sängyn reunalle.
and sat bed (GEN) edge (ALLAT)

Walk represents a motion verb conflating Manner, while *in* expresses the Goal (Talmy's Path). The Ground expression is omitted, but is identifiable from the context (e.g. *a room*). Similarly, *sit* describes a kind of motion (i.e. Motion + Manner), and *on the edge of the bed* expresses the Goal (Talmy's Path + Ground). E1 and E2 in (55) are perceived as two discrete events; in both cases, the movement of the protagonist corresponds to the movement of the narrative. The same analysis applies to the Finnish equivalent in (55'); i.e. *astua* and *istuutua* are Motion + Manner predicates. Note, too, that Finnish post-/prepositions, such as *sisään*, are inflected for case. The only difference is that in Finnish Path and Ground are often conflated, as in *sängyn reunalle*.

(56) can be analysed similarly, although in this case E1 does not represent a typical motion event:

- (56) a. John nodded (E1)
b. and dropped his cigarette on the floor (E2).
- (56') a. Juhani nyökkäsi (E1)
Juhani nodded (PERF)
b. ja pudotti savukkeensa lattialle (E2).
and dropped cigarette (POSS) floor (ALLAT)

The verb *nod* seems to conflate Figure (= 'John's head'), Path (= 'down& up'), to borrow Talmy's terminology, i.e. it expresses the movement of John's head down and back up again. Talmy calls verbs like *nod* "full-cycle" verbs, distinguishing them from "one-way" verbs, such as *flash* and *fall*. The Finnish sentence can be analysed identically; furthermore, the affix *isi* clearly indicates a perfective reading for *nyökata*.

Of course, even predicates like *walk* can be analysed at different levels of structure. As Langacker has pointed out (1982:269), the trajectory of a perfective process can be complex, relating to the various levels of organisation. On one level of organisation, *walk* is repetitive, and describes a sequence of identical cycles or 'pulses' of activity. (A single pulse consists of e.g. one leg being moved in front of the other). On a higher level of organisation, walking is viewed as internally homogeneous activity, consisting of many lower-level pulses. So, according to Langacker, "when I say *He walked*, I am most likely suggesting at least two

simultaneous trajectories, one a repetitive reflexive trajectory with pulses of short duration, and the other a single-pulse affair of longer duration involving such phases as initiation, continuation toward goal and cessation".

The difference between sentences like (55) and those like (56) is that the latter, unlike the former, do not involve a change of location (a 'benefactive' role). We can naturally add such a role, (e.g. *He nodded at me and got up*); however, in this case the benefactive role occurs at a higher level of semantic structure denoting a form of *communication*, rather than concrete movement. Despite this difference, both (56a) and (b) can be interpreted as moving the narrative. Thus, as far as the MOVE-sentences are concerned, the level I am mainly interested in concerns a complete cycle, whether it involves the reaching of a goal (completing several lower-level cycles), or simply the completion of one single cycle.

The same thing applies to clauses describing abstract movement, as is illustrated by (57):

- (57) a. John became alarmed (E1)
b. and warned (E2) the audience.
- (57') a. Juhani hätääntyi (E1)
Juhani alarmed (INCHO)
b. ja varoitti kuulijoitaan (E2).
and warned audience (PART)

In this case, the verb *become* expresses inchoativity, i.e. movement into a state, while *alarmed* functions as the (abstract) Ground with respect to which the Figure ('John') is interpreted as moving. As for Finnish, *hataantya* incorporates the inchoative motion and the Ground.

It is important to note that we are not talking about physical time, but the linguistic representation of time. E1 and E2 in (57) may well overlap in 'reality', at least partially; however, in the absence of any explicit or implicit *anaphoric* link between the clauses, the two events are interpreted as being discrete, i.e. E2 is interpreted as succeeding E1. This does not mean, however, that all autonomous clauses are interpreted as moving the main narrative forward. Consider, for example, the sentences in (58):

- (58) a. For an encore, John played the
Moonlight Sonata (E1)
b. The opening movement he took rather
tentatively, (E2) but then ...

(58a) and (58b) are both autonomous clauses, but the latter is not interpreted as moving the main narrative forward as it describes a subevent of E1, and is used to begin an embedded narrative. Note that the nominals expressing the Path *the Moonlight Sonata* and *the first movement*, respectively, are anaphorically linked.

Indeterminate ordering is another example of non-movement. Consider the following example (taken from Comrie, 1985:27):

- (59) During the night, the wind tore off the roof,
broke three windows and brought down the apple-tree.

In (59) *during the night* specifies a temporal frame within which the subevents are located, but the ordering between them is indeterminate.

Thus, we have to slightly modify the Basic Rule mentioned in the previous section: All autonomous sentences specify an event (a spatio-temporal interval); however, not all of them are used to move the narrative forward.

The following are then representations for the above MOVE-sentences:

- (60)
55. E1: MOVE (Agent/Figure=man, Goal=inside)
E2: MOVE (Agent/Figure=man, Goal=bed)
56. E1: MOVE (Agent/Figure=john)
57. E1: MOVE (Agent/Figure=john, Goal=state of alarm)
58. E1: MOVE (Agent/Figure=he, Path=sonata, Goal=end)
E2: MOVE (Agent/Figure=he, Path=1st_mvt, Goal=end)

Note that 'Path' in the above representations is used to indicate the subject's journey from a Source to a Goal, and the Goal argument conflates Talmy's Path and Ground. I am thus assuming here that the default value for Talmy's Path component is 'allative'. The point expression in (56) does not involve a Goal argument; furthermore, the Figure and Path arguments have been omitted.⁹ Finally, the value for Goal is 'end' in the case of completed telic processes, as in (58).

7.4.2.2. Directional Clauses in Finnish

It was already mentioned in Chapter Three that the nature of the object or subject NP often determines whether the sentence is perfective or imperfective. However, the so-called indirect object (the 'Benefactive') also plays a role in determining the aspectual perspective of the whole sentence.

Consider the following sentences:

⁹For the sake of simplicity, except in the case of *katsoa* ('look'), I have ignored the Figure and Path arguments that may be associated with atelic process predicates. As we have seen, *head* can be regarded as the implicit Figure of *nod* (cf. (56) above).

- (61) a. Jussi ajoi autoa talliin/tiellä.
 Jussi drove car (PART) garage (ALLAT)/road (LOC)¹⁰
 'Jussi was driving a car into the garage/
 on the road.'
- b. Jussi ajoi auton talliin/*tiellä.
 Jussi drove car (ACC) garage (ALLAT)/road (LOC)
 'Jussi drove the car into the garage/on the road.'

With transitive verbs expressing (concrete) movement, the object NP determines the aspect of the whole sentence, so if the aspect is perfective, as in (61b), the sentence cannot contain a (nondirectional) locative case.

However, as has been pointed out by Hakulinen (1961), with intransitive verbs, the locative-allative opposition can be used for aspectual distinctions. Consider the following in this respect:

- (62) a. Jussi väsyi tiellä.
 Jussi tired (INCHO) road (LOC)
- b. Jussi väsyi tielle.
 Jussi tired (INCHO) road (ALLAT)
- (63) a. Kaivon vieressä kasvoi sinikelloja.
 well (GEN) side (LOC) grew bluebells (PART)
- b. Kaivon viereen kasvoi sinikelloja.
 well (GEN) side (ALLAT) grew bluebells

(62a) translates as 'Jussi got tired on the road', while the English equivalent of (62b) would be something like 'Jussi collapsed on the road'. The difference between the two sentences is that the former puts emphasis on the location where the event takes place, while the latter emphasises the *consequences* associated with the event, so the phrase *tielle* ('onto the road') expresses the benefactive role. Similarly, the translation for (63a) is 'There were (some) bluebells growing by the well', while (63b) could be rendered into English as '(Some) bluebells came up by the well'.

In some cases, both locative and allative phrases are possible, even with an accusative object NP. Consider the examples in (64):

- (64) a. Marja riisui kengät ovensuuhun.
 Marja took_off shoes (ACC) doorway (ALLAT)
- b. Marja riisui kengät ovensuussa.
 Marja took_off shoes (ACC) doorway (LOC)

The English translation could in both cases be 'Marja took off his shoes at the

¹⁰'ALLATtive' and 'LOCative' here are cover terms for all cases expressing movement towards a place, and location in a place, respectively.

doorway', although, to be pedantic, the former really means: 'Marja took off her shoes, and put them down at the doorway', and the latter 'Marja took off her shoes while she was standing at the doorway'.

Consider, too, the following intransitive sentences:

- (65) a. Juna pysähtyi asemalla.
 train stopped station (ADESS)
- b. Juna pysähtyi asemalle.
 train stopped station (ALLAT)

Both sentences are perfective because of the inherent meaning of the predicate *pysähtyä*. According to Hakulinen (1961), the difference between the two is that in the former case, the place of the stopping is regarded merely as an incident in the train's journey towards its destination, while in the latter case the place is regarded as the terminal point.

The following are further examples of sentences containing an *external* benefactive role, encountered in fiction:

- (66) a. Hän nousi seisomaan ja huusi
 He rose stand (ILLAT) and shouted
 oven taakse.
 door (GEN) behind (TRANSL)
 'He got up and shouted behind the door'
 (Linna, *Tuntematon Sotilas*:283)
- b. Nousin ja avasin oven ulos,
 I got up and opened door (ACC) out,
 pienelle kalliontasanteelle.
 small rock (ALLAT)
 'I got up and opened the door which led outside,
 onto a small rock.' (Aho, *Saara*: 194)
- c. Saara painoi valon rappuun.
 Saara pressed light (ACC) corridor (ILLAT)
 'Saara switched the lights on in the corridor'
 (Aho, *Saara*:136)

Indeed, Finnish has a tendency to emphasise the directionality of the action; hence, it uses a directional (allative or ablative) phrase, where Indo-European languages, such as English, use a locative one. Consider the examples in (67) in this respect:

- (67) a. Jussi jätti avaimet pöydälle
 Jussi left keys (ACC) table (ALLAT)
 'Jussi left the keys on the table.'
- b. Pekka pysähtyi keskelle lattiaa.
 Pekka stopped middle (ALLAT) floor (PART)
 'Pekka stopped in the middle of the floor.'
- c. Karhu ammuttiin pesäänsä.
 bear was shot lair (ILLAT)
 'The bear was shot in its lair.'
- d. Isä kuuli keskustelumme
 huoneeseensa.
 Father heard conversation (ACC + POSS)
 room (POSS+ILLAT)
 'Father heard our conversation in his room.'

We have already mentioned the affinity between locative and allative phrases, (cf. Anderson, 1977), so it does not seem surprising that one language should use a locative phrase where the other uses an allative one. However, there are also cases where Finnish uses an ablative phrase while Indo-European languages use a locative one. Consider the following in this respect:

- (68) a. Jussi löysi avaimet pöydältä.
 Jussi found keys table (ABLAT)
 'Jussi found the keys on the table'
- b. Kuulin sen radiosta.
 I heard it (ACC) radio (ELAT)
 'I heard it on the radio.'
- c. Katso osoite puhelinluettelosta.
 Look address telephone directory (ELAT)
 'Look up the address in the telephone directory.'

According to Hakulinen (1961: 332), in (68a) the location of the keys is emphasised less than the fact that the keys were picked up (and presumably put in a more suitable place). Similarly, in (68b) and (c), one emphasises the *source* of the information, rather than its location.

A similar explanation for this apparent affinity between locative and ablative has been offered by MacKenzie (1978). According to him, there is potential confusion between location at the initial point of movement and movement from that point. So we can say that both languages refer to the same action in the case of sentences like (68); they differ only in how the action is conceptualised: English envisages the situation with relation to the *position* of its source, Finnish with relation to *movement* away from that position. This also ties up with the tendency Finnish has to mark the directional aspect of the situation, rather than its location. The following are then representations for some of the above sentences:

(69)

- 64 a. MOVE (Agent=marja, Figure=kengät, Goal=*pois*)
& MOVE (Agent=marja, Figure=kengät, Goal=ovensuu)
b. BE (Figure=marja, Loc=ovensuu)
& MOVE (Agent=marja, Figure=kengät, Goal=*pois*)
- 68 a. MOVE (Agent=juhani, Figure=avaimet,
Source=pöytä, Goal=end)

where the implicit argument *pois* translates as 'off'. (64a) is assumed to involve two separate motion events, and *ovensuu* represents the Goal argument of the latter event, while in (64b) it represents the Loc argument of the higher-level BE-predicate. However, for the sake of simplicity I shall conflate the two motions events in cases like (64a) in the subsequent representations, including 'benefactives' like *ovensuu* as the goal argument.¹¹ As for (68a), we can say that *Juhani* represents an agent, rather than an experiencer, as the emphasis is on the removal of the keys, rather than on their location.

Finally, it should be noted that perception clauses, too, are directional in nature. Consider, for instance, the following in this respect:

- (70) a. Marja katsahti Mikkoon.
Marja looked (PERF) Mikko (ILLAT)
'Marja glanced at Mikko.'
b. Marja katseli Mikkoa.
Marja looked (IMPERF) Mikko (PART)

which can be represented as follows:

- (70') a. MOVE (Agent=Marja, Figure=*katse*, Goal=Mikko)
b. MOVE (Agent=Marja, Figure=*katse*, Goal=Mikko)

In other words, (70a') and (b) are meant to encode the idea that 'Marja threw a glance at Mikko', *katse* representing an implicit argument of MOVE. Note further that the curly bracket in the (b)-clause is used to indicate iterative motion.

¹¹For the sake of simplicity, I shall also ignore the embedded structures normally associated with causative sentences like (64). Strictly speaking, of course, MOVE(Ag=juhani, Fig=kengät, Goal=lattia) is short for MOVE(Ag=juhani(MOVE(Fig=kengät, Goal=lattia))).

7.4.2.3. Non-Autonomous Sentences

Non-autonomous sentences are anaphoric, and are used to locate a Figure with respect to a Ground. The Ground can be concrete (i.e. a place), as in (71) and (72), or abstract (i.e. a state), as in (73):

- (71) a. Juhani oli keittiössä.
Juhani was kitchen (INESS)
- b. Juhani istui sängyllä.
Juhani sat bed (ADESS)
- c. Juhani seiso i nurkassa.
Juhani stood corner (INESS)
- (72) a. Juhani oli hiihtämässä.
Juhani was ski (INESS3)
- b. Juhani on uimassa.
Juhani is swim (INESS3)
- (73) a. Juhani oli sairaana.
Juhani was ill (ESS)
- b. Ruoka on valmiina.
Food is ready (ESS)

(71)-(73) can then be assigned the following representations:

- (71') a: BE (Figure, Loc)
b&c: BEmanner (Figure, Loc)
- (72') a&b: BE (Figure, Loc)
- (73') a&b: BE (Figure, Loc)

It might seem strange that *uimassa*, etc. should be regarded as Loc arguments. However, as has been pointed out above, this expression conflates a locality and a process, and what is more, the connotation of locality, unlike that of process, is always present. Furthermore, we have already noted the difference between BE-predicates denoting 'manner', such as *istua* and *seisoa*, and neutral BE-predicates like the copula.

All the sentences above are *temporally* anaphoric, which means that they have to be anchored to a clause establishing a temporal antecedent. However, they are complete *spatially*, identifying a spatial entity, abstract or concrete. By contrast, the underlined temporal expressions in the following sentences are both spatially *and* temporally anaphoric, and must, therefore, be anchored to a clause providing a spatio-temporal antecedent.

- (74) a. Juhani makasi sängyllä uupuneena.
 Juhani lay bed (ADESS) exhausted (ESS)
- b. Juhani oli leikkimässä pihalla.
 Juhani was play (INESS3) garden (ADESS)
- c. Juhani oli/istui keittiössä
 Juhani was/sat kitchen (INESS)
lukemassa sanomalehteä.
 read (INESS3) newspaper (PART)
- d. Juhani istui olohuoneessa
 Juhani sat living-room (INESS)
lukien sanomalehteä.
 read (INSTR2) newspaper (PART)
- e. Matti seisoj nurkassa vihellellen.
 Matti stood corner (INESS) whistle (INSTR2)
- f. Matti istui tuolilla ja vihelteli.
 Matti stood chair (ADESS) and whistle (SP)
- h. Mikko meni ullakolle leikkimään.
 Mikko went attic (ALLAT) play (ILLAT3)

I propose then the following representations for the above sentences:

- (74')
- a. E0: E1: BE manner (Figure=juhani, Loc=sänky)
 & E2: BE (Figure=juhani, Loc=uupunut)
- b. E0: E1: BE (Figure=juhani, Loc=piha)
 & E2: BE (Figure=juhani, Loc=leikkiä)
- c. E0: E1: BE/BE manner (Figure=juhani, Loc=keittiö)
 & E2: BE (Figure=juhani, Loc=lukea)
- d. E0: BE manner (Figure=juhani, Loc=olohuone)
 & E2: MOVE (Agent/Figure=juhani,
 Path=sanomalehti, Goal=)
- e. E0: E1: BE manner (Figure=juhani, Loc=nurkka)
 & E2: MOVE (Agent/Figure=juhani)
- f. E0: E1: BE manner (Figure=juhani, Loc=tuoli)
 & E2: MOVE (Agent/Figure=juhani)
- h. E0: E1: MOVE (Agent/Figure=Mikko, Goal=ullakko)
 & E2: MOVE (Agent/Figure=juhani, Goal=leikkiä)

The following should be noted regarding the notation used here. First, apart from a place and a state, the Loc argument of BE can also refer to a process, as in (74b) and (c). Second, 'Goal=_' indicates that the Goal argument is uninstantiated because the goal has not been reached, as in (d). Third, the second clause in (e) and (f) involves iterative movement. Fourth, although *leikkimään* in (h) refers to a bounded process, it is nevertheless spatio-temporally incomplete, and has to be interpreted with respect to the spatial entity described in the previous clause. Finally, E0 stands for a complex event, i.e. a semantic unit comprising two or more events, E1 ... En.

Of course, a nonautonomous sentence can also be anchored to a MOVE-sentence, as in (75):

- (75) a. Juhani tuli kotiin (E1) laulellen (E2).
Juhani came home sing (INSTR2)
- b. Juhani tuli kotiin vihaisena.
Juhani came home angry (ESS)

which can be represented as follows:

- (75') a. MOVE (Agent/Figure=juhani, Goal=koti)
& MOVE (Figure/Agent=juhani)
- b. MOVE (Agent/Figure=juhani, Goal=koti)
& BE (Figure=juhani, State=viha)

First of all, it may well be asked why the Iness3 and Instr2 constructions should not be represented identically. However, there are good reasons for treating Iness3 as a BE-sentence, and Instr2 as a MOVE-sentence.

First, I assume that Instr2 sentences are more or less equivalent to the corresponding simple past sentence. The only difference between the two is that the former specify the manner of the main clause event, while the latter are semantically neutral. What is important, however, is that both refer to movement, i.e. to ongoing activity, whereas the Iness3 construction refers to location inside a process. As we already saw in Chapter Five, only sentences expressing movement can occur with a FOR-adverbial:

- (76) a. !Pekka oli kirjoittamassa kirjettä tunnin.
Pekka was write (INESS3) letter (PART) hour (ACC)
- b. Mikko kirjoitti kirjettä tunnin.
Mikko wrote (SP) letter (PART) hour (ACC)

Second, (77a) can be uttered felicitously even if Mikko hasn't written a single line, as the Iness3 merely refers to an abstract telic process; by contrast, (77b) and (c) can only be interpreted as referring to an activity going on at the time of utterance:

- (77) a. Mikko oli keittiössä
 Mikko was kitchen (INESS)
 kirjoittamassa kirjettä.
 write (INESS3) letter (PART)
- b. Mikko istui keittiössä
 Mikko sit (SP) kitchen (INESS)
 kirjoittaen kirjettä.
 write (INSTR2) letter (PART)
- c. Mikko istui keittiössä
 Mikko sat (SP) kitchen (INESS)
 ja kirjoitti kirjettä.
 and write (SP) letter (PART)

Another point worth mentioning is that, unlike e.g. Langacker (1982), I assume that only sentences denoting telic processes are associated with a Path and a Goal, while sentences denoting atelic processes have zero spatial trajectory, to use Langacker's terminology. This is why e.g. (74d) and (74e) are assigned different representations.

7.4.2.4. More about the Participial Construction

We have already discussed the various degrees of temporal overlap in connection with English participial clauses, and have claimed that the participial construction is only acceptable if there is an anaphoric link between the main clause and the participial clause. What this means is that the subject of the main clause has to be identical with that of the participial clause, and moreover, that the two clauses have to share one of the other semantic elements.

We have then distinguished the following cases:¹²

(78)

1. Total Overlap:
 E1 and E2 describe the same spatio-temporal entity;
 E2 elaborates on E1, e.g. describing its manner.
2. Partial Overlap:
 - a. E2 is the direct consequence of E1.
 - b. c1 and c2 refer to two separate motion events,
 E2 succeeding E1, but there is an anaphoric relation
 between the clauses

These rules also apply to Finnish participles expressed by the Instr2 construction. The examples in (79) illustrate Case 1 in (78):

¹²Thompson (1983) argues that the relationship between the main clause and the participial clause is always unspecified; the latter merely describes the former, but never expresses any temporal or logical relation to it. However, I disagree with this claim; it seems to me that that a variety of spatio-temporal and semantic relations can be established between the two.

- (79) a. Lapsi tuli kotiin itkien.
child came home cry (INSTR2)
'The child came home crying.'
- b. Hän käveli antaen ohjeita upseereille.
He walked give (INSTR2) instructions officers (ALL)
'He walked about, giving instructions to the
officers.' (Linna, *Tuntematon Sotilas*: 34)
- c. Tämä istui teltan perällä
This sat tent (GENT) back (ADESS)
kunnellen radiota
listen (INSTR2) radio (PART)
'The latter was sitting at the back of the tent,
listening to the radio.'
(Linna, *Tuntematon Sotilas*: 147)
- d. "...", hän vastasi puolustellen.
he replied apologise (INSTR2)
"...", he replied, defensive.'

which can be represented as follows:

(80)

- 79 a. E0: E1: MOVE (Agent/Figure=lapsi , Goal=koti)
E2: MOVE (Agent/Figure=lapsi)
- b. E0: E1: MOVE (Agent/Figure=hän)}
E2: MOVE (Agent=hän, Figure=ohjeita,
Goal=upseerit}
- c. E0: E1: BEmanner (Figure=tämä, Place=telтта)
E2: MOVE (Agent/Figure=tämä,
Path=radio-ohjelma, Goal=_)

In the first case of partial overlap (2a), E1 represents a cause and E2 its result in the sense that the event described by the second clause can be said to be the direct consequence of the event described in the main clause. Thus, no extra energy is required to produce E2. This is exemplified by the sentences in (81):

- (81) a. Hän ehti tajuta ankaran iskun päässään
ja hän humahti tiedottomaksi
vierähtäen ampumahaudan pohjalle.
'He had time to be aware of a severe blow on his
head, and he fell unconscious, rolling to the
bottom of the trench.'
(Linna: *Tuntematon Sotilas*: 313)
- b. Vaunu kallistui kyljelleen
'The tank fell on its side
pysähtyen paikoilleen.
coming to a standstill.'
(Linna, *Tuntematon Sotilas*: 413)

In the other case (2b), extra energy is required to produce the event described in

the participial clause, but it nevertheless forms a semantic unit with the main clause, describing its purpose. This is exemplified by the sentences in (82):

- (82) a. Rahikainen katseli häntä vähan aikaa
mietteissään ja otti sitten esille luutnantti
Braskanin kynsienhoitovälineet, alkaen niillä
kaivella kynsiään.
'Rahikainen looked at him for a while, and then
took out Lieutenant Braskan's nail file, starting to
pick his finger nails with it.'
(Linna, *Tuntematon Sotilas* :134)
- b. Ja talon emäntä nousi, meni keittiöön
vetäen oven perässään kiinni.
'And the mistress of the house got up, went into the
kitchen, shutting the door behind her.'
(Vartio, *Tunteet*:16)
- c. Mielonen nousi seisomaan nähdessään Koskelan
tulevan ja laskeutui portaat alas,
avaten korsun oven.
'Mielonen got up when he saw Koskela approaching and
went down the stairs,
opening the door of the dugout.'
(Linna, *Tuntematon Sotilas*: 284)

It might be argued that there is no anaphoric link between the two clauses in e.g. (82c). One thing is clear, however: there are constraints on the use of the Instr2 construction as a narrative-mover; for instance, the sentences in (83) are decidedly odd:

- (83) a.??Mies astui sisään avaten ikkunan.
'The man walked in, opening the window.'
- b.??Matti astui sisään istuutuen hellan ääreen.
'Matti walked in, sitting down by the fireplace.'

The unacceptability of the above sentences has to do with the notion of spatio-temporal discontinuity, which was already mentioned in connection with the English participles. This notion also explains why (84a) is considerably better than (84b):

- (84) a. Mies riisui saappaat pistäen ne ovensuuhun.
'The man took off the boots, putting them at
the doorway.'
- b. Mies riisui saappaat pistäen lakkinsa pöydälle.
'The man took off the boots, putting his cap
on the table.'

Thus, in (84a) the movement from E1 to E2 is viewed as being continuous while this is not the case in (84b). Note further that (82c) implies that the door of the dugout was situated at the bottom of the stairs, so that the main clause and the participial clause events are presented as being spatio-temporally adjacent.

- (86) 1. CONCRETE LOCATION: a. motion
b. location
2. STATE: a. motion
b. location
b. location
3. PERCEPTION:
4. TELIC ACTIVITY: a. motion
b. location
5. COMMUNICATION¹³:

The following sentences exemplify these different types of Ground:

- (87) 1a: Juhani siirsi kirjan pöydälle (agentive)
Juhani moved book (ACC) table (ALL)
- Juhani käveli ovelle. (self-agentive)
Juhani walked door (ALL)
- Kirja putosi lattialle. (non-agentive)
Book fell floor (ALL)
- 1b: Kirja makasi lattialla.
Book lay floor (ADESS)
- (88) 2a: Juhani suututti minut. (agentive)
Juhani angered (CAUS) me (ACC)
- Juhani suuttui. (non-agentive)
Juhani angered (INCHO)
- b: Juhani oli vihoissaan.
Juhani was anger (INESS)
- (89) 3: Juhani katsahti minuun.
Juhani looked me (ILLAT)

¹³There are also locative sentences expressing perception, such as the following:

- (a) Katseeni viipyi Mikossa.
My look stayed Mikko (INESS)
'My eyes were resting on Mikko'

Similarly, e.g. Anderson (1971) and Jessen (1975) have argued that (b) represents the locative counterpart of the motional communication sentence in (c):

- (b) I knew the answer.
(c) He told me the answer.

However, the relationship between (b) and (c) is not as straight-forward as in the other cases discussed here.

- (90) 4a: Marja soitti sonaatin/ kirjoitti kirjeen.
 Marja played sonata (ACC) /wrote a letter (ACC)
- b1: Marja oli ullakolla
 Marja was attic (ADESS)
 soittamassa sonaattia/kirjoittamassa kirjettä
 play (INESS3) sonata/write (INESS3) letter (PART)
- b2: Marja oli soittanut sonaatin/kirjoittanut kirjeen.
 Marja was play (PP) sonata/write (PP) letter (ACC)
- (91) 5: Matti sanoi minulle, että...
 Matti said I (ALLAT) that ...
- Mikko nyökkäsi Pekalle.
 Mikko nodded Pekka (ALLAT)

In (87) the Goal/Loc-phrase refers to a concrete place; in (88) it refers to an abstract location (a state), and in (89) the Goal/Loc is the object of perception. In the case of extended journeys exemplified by (90), the Path is the abstract playing or baking process; the Goal is the completion of this process, and the Loc is e.g. the process (b1), or the resulting state (b2).¹⁴ Finally, in (91) the Goal is the recipient of the act of communication.

In a *prototypical* motion event, concrete autonomous clauses introduce a new spatio-temporal entity, and abstract non-autonomous sentences are evaluated with respect to it. Consider the following examples:

- (92) a. Juhani tuli kotiin (E1) vihaisena (E2).
 Juhani came home angry (ESS)
- b. Juhani tuli kotiin (E1) laulellen (E2).
 Juhani came home sing (INSTR2)
- c. Juhani meni ullakolle (E1) laulamaan (E2).
 Juhani went attic (ALLAT) sing (ILLAT3)
- d. Juhani oli ullakolla (E1) laulamassa (E2).
 Juhani was attic (ADESS) sing (INESS3)

The general rule seems to be that clauses referring to abstract movement/location have to be anchored to clauses denoting concrete movement/location. Thus, in (92a) the non-autonomous clause, *vihaisena*, is analysed as referring to the same spatio-temporal entity (E0) as the spatially autonomous clause denoting E1. In other words, it cannot occur autonomously, but always accompanies a spatially complete clause, modifying it. The same analysis applies to the non-autonomous clauses *laulellen* (92b), *laulamaan* (92c), and *laulamassa* (92d), although in this latter case the main clause itself is related to a temporal antecedent.

¹⁴It should be noted that I am treating causative and noncausative telic predicates identically here; from the point of view of this thesis, the important thing is the subject's location with respect to the telic process, and not the creation of a new entity.

Thus, generally speaking, an abstract sentence has to be explicitly anchored to a concrete one. However, as we have seen, there are exceptions to this rule; specifically, abstract BE-clauses can occur independently of concrete ones (cf. the examples in (73) above).¹⁵ and moreover, abstract MOVE-clauses can be used to move the narrative forward (cf. (57) above).

Furthermore, the nonautonomous clauses in (92) are related semantically to the main clauses, (92a) and (b) denoting the manner and (92c) and (d) the purpose of E1. Thus, we get the following higher-level representations for the sentences in (92):

(93)

- 92a and b: E0: BE_{manner} (Fig=E1, Loc=E2)
 c: E0: MOVE_{purpose} (Fig=E1, Goal=E2)
 d: E0: BE_{purpose} (Fig=E1, Loc=E2)

Compare now (92) with the following example:

- (94) a. Juhani istui verannalla (E1)
 Juhani sat balcony (ADESS)
 b. ja lueskeli salapoliisiromaania. (E2)
 and read (IMPERF) detective novel (PART)

It may well be that the second clause in (94b) denotes the manner in which John is sitting on the balcony; however, unlike in (92), there is nothing in the linguistic form to suggest this interpretation; it simply expresses an overlap relation. Thus, strictly speaking, this semantic relation is not expressed linguistically, but has to be established on the basis of non-linguistic information. It seems, therefore, reasonable to argue that the relationship between (94a) and (b) should be represented by the neutral BE-predicate, i.e. BE (Figure=E1, Loc=E2).

We can say then that the semantic relation between a participial clause and its main clause is more transparent than that between two simple past clauses. However, since (94b) is nonautonomous, and¹anaphorically related to the first one, there is a close semantic relation between the two. Similarly, we can say that in (58) above, repeated here:

- (58) a. For an encore, John played the
Moonlight Sonata (E1)
 b. The opening movement he took rather
 tentatively, (E2) but then ...

¹⁵Naturally, the event has to be ultimately related to a concrete *discourse* location; however, at the *semantic* level, the sentences in (73) are spatially autonomous.

the nominals *the Moonlight Sonata* and *the first movement* are anaphorically linked, hence the clauses are closely related semantically.

Consider, too, the following:

- (95) a. Juhani tuli sisään (E1)
 `Juhani came in
 b. ja riisui saappaansa. (E2)
 and took off his boots.'
- (96) a. Juhani riisui saappaansa (E1)
 `Juhani took off his boots
 b. ja pisti ne lattialle. (E2)
 and put them on the floor.'

The anaphoric link between the clauses in (96) means that they are more closely related semantically (and spatio-temporally) than those in (95), whose relation is determined pragmatically. However, it is obvious that the anaphoric relation between (96a) and (b) is different from the one exemplified in the sentences in (92). Consider, too, the sentences in (97) and (98) in this respect:

- (97) a. Juhani oli Lontoossa eilen
 Juhani was London (INESS) yesterday
 b. ja Marja oli siellä tänään.
 and Marja was there today
- (98) a. Juhani meni Lontooseen eilen
 Juhani went London (ILLAT) yesterday
 b. ja Marja meni sinne tänään.
 and Marja went there today

There is naturally an anaphoric link between the proforms *siellä* and *sinne* and their respective antecedents, *Lontoossa* and *Lontooseen*; hence, in both (97) and (98), the (a) and (b)-clauses are marked as co-spatial. However, the (b)-clauses in (97) and (98) are not spatially incomplete in the same sense as the underlined clauses in (92); in particular, the (a)-clauses do not form a semantic unit with the (b)-clauses in the way the autonomous and nonautonomous clauses in (92) do. The difference is that in (92) the anaphoric clauses denote an event which is totally included within the spatial entity denoted by their antecedent clause. It is these kinds of anaphoric constructions that are of special interest to the interpretation of narratives. We can maintain then that a spatially anaphoric locative construction is also temporally anaphoric, if we restrict ourselves to the analysis of *clauses*, rather than *proforms*.

Thus, there does not seem to be a clear-cut distinction between anaphoric and

deictic relations between two clauses. For instance, the nonautonomous clauses in (92) are fully anaphoric spatio-temporally; (97b) and (98b) are partially anaphoric, containing a spatially anaphoric element, and finally, (95a) and (b) are deictic, and their relationship is one of discourse anaphora.

This brings us to the issue of tense as a discourse anaphor. As we have seen, it has been argued e.g. by Webber (1988) that all tenses in discourse are anaphoric, i.e. evaluated with respect to some previously established discourse entity. Now, although it is self-evident that the interpretation of a linguistic expression depends on the discourse context in which it occurs, it is nevertheless necessary to distinguish different levels of context-dependency in this connection.

My definition of spatio-temporal anaphora is as follows: Two clauses are anaphorically related if they are interpreted as referring to at least partially overlapping spatio-temporal entities. Thus, the following spatio-temporal constructions can be distinguished:

(99)

A. Anaphoric:

1. Spatially anaphoric:

Cx evaluated with respect to the spatial entity, Ey, introduced by Cy. (e.g. (97b))

2. Temporally anaphoric:

Cx evaluated with respect to the temporal entity, Ey, introduced by Cy. (e.g. (71-73))

3. Spatio-temporally anaphoric:

Cx evaluated with respect to the entity, Ey, introduced by Cy; if Cy temporally anaphoric, Cx obtains its temporal reference from a spatio-temporally autonomous clause, Cz, via Cy. (e.g. 92))

B. Non-anaphoric:

1. Spatially:

Cx introduces a spatial entity, Ex, for subsequent reference (97a).

2. Temporally:

Cx introduces a temporal entity, Ex, for subsequent reference (98b).

b. spatio-temporally:

Cx introduces a spatio-temporal entity, Ex, for subsequent reference (95).

where Cn refers to a clause/phrase and En to an event/entity. As we have seen,

A2, and 3, and B1 and 3 are of particular relevance to the analysis of the spatio-temporal structure of narratives.

The anaphoric spatio-temporal relations in (99) are then to be kept separate from 'discourse anaphora', which deals with the relative ordering of clauses belonging to the same narrative. For instance, on the basis of semantics discourse structure and world knowledge, we can establish the relative order of the events described by two nonanaphoric clauses. However, this notion of context-dependency between consecutive clauses in narrative has to be distinguished from the notion of semantic anaphora.

7.4.4. Representation of a Narrative Text

7.4.4.1 Summary of Representations

The following summarises the representations discussed so far:

- (100) 1. MOVE (Agent, Figure, Source, Path, Goal)
2. BE (Figure, Loc)

A number of points should be noted regarding the arguments of the MOVE-predicate in (100). First of all, there are the following three possibilities with respect to the Agent and Figure arguments:

(101)

1. Agentive:

Juhani pani kirjan pöydälle.
Juhani put book (ACC) table (ALLAT)
MOVE (Agent=juhani, Figure=kirja, Goal=pöytä)

2. Self-agentive:

Juhani käveli asemalle.
Juhani walked station (ALLAT)
MOVE (Agent/Figure=juhani, Goal=asema)

c. Nonagentive (Agent implicit/missing):

Kirja putosi lattialle.
book fell floor (ALLAT)
MOVE (Figure=kirja, Goal=lattia)

Second, the Source- and Path-arguments occur optionally; the latter are only used in the analysis of telic sentences referring to extended situations.

Third, the value for Goal is 'end' in the case of completed telic processes:

- (102) Marja luki kirjeen.
Marja read letter (ACC)

MOVE (Agent/Figure=marja, Path=kirje, Goal=end)

Fourth, the notation 'Goal=_ ' indicates that the value for the Goal argument is uninstantiated. This is used to represent telic imperfective sentences:

- (103)

Marja luki kirjettä.
Marja read letter (PART)

MOVE (Agent/Figure=marja, Path=kirje, Goal=_)

Fifth, the curly bracket } is used to represent iterative movement in the following two cases:

- (104)

1. atelic: Mikko juoksenteli pihalla.
Mikko ran (IMPERF) yard (ADESS)

BE (Figure=Mikko, Loc=piha) &
MOVE (Agent/Figure=mikko}

2. telic: Mikko kirjoitti kirjeitä.
Mikko wrote letters (PART PLUR)

MOVE (Agent/Figure=mikko, Path=kirje, Goal=end}

To sum up, the following representations can be assigned to the various sentence types:

(105)

1. telic:

- a. border-crossings: Marja antoi Pekalle kirjan.
Marja gave Pekka (ALLAT) book (ACC)

MOVE (Agent=marja, Figure=kirja,
Goal=pekka)

- b. extended journeys: Marja luki kirjeen.
Marja read letter (ACC)

MOVE (Agent/Figure=marja,
Path=kirje, Goal=end)

2. atelic:

- a. points: Pekka yskähti.
Pekka coughed (PERF)

MOVE (Agent/Figure=pekka)

- b. processes: Pekka yskiskeli.
Pekka coughed (IMPERF)

MOVE (Agent/Figure=pekka)

Finally, the arguments can also be implicit, in which case they are *italicised*:

(106):

1. Mies tuli sisään.
man came inside (ILLAT)

MOVE (Agent/Figure=mies, Goal=*huone*) ('room')

2. Pekka katsahti Marjaan.
Pekka looked (PERF) Marja (ILLAT)

MOVE (Agent=pekka, Figure=*katse* ('a look'), Goal=marja)

As for the BE-predicate in (100), it should be noted that both of its arguments are obligatory. Furthermore, the second argument, Loc, can refer to a place (*Pekka oli Lontoossa*, 'Pekka was in London'); a state (*Pekka oli sairaana*, 'Pekka was ill'), or to a process (*Pekka oli leikkimässä ullakolla*, 'Pekka was in the attic, playing').

So far we have been discussing MOVE- and BE-predicates relating to the spatial dimension of the model, i.e. to the subject's movement or location in space. However, as we saw in Chapter Five, we can also talk about *temporal* location; specifically, BEt-predicates can be used to represent punctual temporal adverbials, and MOVet-predicates durative ones:

(107)

1. Pekka tuli kotiin kahdelta.
Pekka came home two (ABL)
'Pekka came home at two.'

BET [MOVE (Agent/Figure=pekka, Goal=koti), Time=kaksi]

2. Pekka lauloi tunnin.
Pekka sang hour (ACC)
'Pekka sang for an hour.'

MOVEt [MOVE (Agent/Figure=pekka), Time=tunti]

3. Pekka ui mailin tunnissa.
Pekka swam mile (ACC) hour (INESS)
'Pekka swam a mile in an hour.'

MOVEt [MOVE (Agent=matti, Path=maili,
Goal=end), Time=tunti]

In (107.2) the FOR-adverbial, *tunnin*, bounds an unbounded situation, while in (107.3) the IN-adverbial, *tunnissa*, indicates the length of a bounded situation.

As has been pointed out above, motion events, and the relations between them, are assumed to constitute the primitives of the theory. The following then summarises the most important relations between two events:

(108)

A. Semantic Anaphora:

1. spatio-temporal: \supset (E1, E2) (E1 contains E2)
2. temporal: \supset (E1, E2) (E1 contains E2 temporally,
but not spatially)

B. Discourse Anaphora:

1. precedence: $<$ (E1, E2): E1 precedes E2
2. succession: $>$ (E1, E2): E1 succeeds E2
3. inclusion: \supset (E1, E2): E1 contains E2

As we have seen, we can have two temporally discrete clauses which overlap spatially (e.g. (97) and (98)). However, from the point of view of the spatio-temporal structure of narrative texts, the most important relations are the ones shown in (108); hence, I shall ignore sentences which denote events overlapping spatially, but not temporally (e.g. \supset_s (E1, E2) & $<t$ (E1, E2)). Furthermore, it is assumed that the movement of spatial location correlates with the movement of temporal focus; hence, e.g. $<s$ (E1, E2) & \supset_t (E1, E2) is not a possible relation.

Finally, one apparent discrepancy between the representations proposed here and those proposed in the previous chapters should be mentioned here. In Chapters Two and Five non-autonomous clauses, such as the progressives, were analysed as follows: $\underline{ET} \supseteq \underline{RT}$; i.e. the ET of a nonautonomous clause was assumed to be

included in the RT provided by an autonomous clause. In (108), by contrast, the event described by nonautonomous clauses is assumed to be contained within that described by autonomous ones. However, it is important to realise that the model in (108) is concerned with spatio-temporal anaphora, rather than with the duration of events in the 'real' world. Thus, although E2 may well be interpreted as overlapping E1 temporally, in the framework proposed in this thesis it is considered to be included in the latter.

7.4.4.2. *Analysis of a Narrative Text*

I shall now analyse the spatio-temporal structure of the first two paragraphs of a short story from a collection *Yhden Yön Pysäkki* by Rosa Liksom, using the notation introduced in the previous section. (This particular piece has been chosen not for its literary merit but for the simplicity of its narrative structure). The discourse fragment has been divided into Scenes on the basis of change in discourse location, or change of topic (in the case of Scene 6).

The following abbreviations are used below:

(109) Agent = A
Figure = F
Goal = G
Loc = L

- (1)
- C1: VANHA MIES TULI SISAAN
old man came in (ILLAT)
'An old man came in
- C2: JA RIISUI TAKKINSA OVENPIELEEN.
and stripped coat (POSS) doorway (ILLAT)
and took off his coat at the doorway.
- C3: SE NYOKKASI YSTAVALLISESTI
he nodded (PERF) friendly
He gave a friendly nod
- C4: JA ISTUUTUI LATTIALLE UUNIN ETEEN
and sat (INCHO) floor (ALLAT) stove (GEN) front (ILLAT)
and sat down on the floor, in front of the stove,
- C5: KYLMISSAAN JA VASYNEENA
cold (INESS) and tired (ESS)
feeling cold and tired.
- C6: SE OLI HILJAA
he was quiet
He was quiet
- C7: OMIIN AJATUKSIINSA UPONNEENA
own thoughts (ILLAT) drowned (ESS)
absorbed in his thoughts
- C8: JA KATSELI YLAIKKUNASTA
and looked (IMPERF) top window (ELAT)
PIKIMUSTAA YOTA.
pitch dark night (PART)
and looked out of the top window at
the pitch dark night.'

(1) ANALYSIS:

SCENE1: The implicit Ground of E1, *huone* ('room')
introduces a major spatial frame with reference to
which the subsequent discourse is analysed.

- E1: MOVE (A/F=mies, G=*huone*)
E2: MOVE (A=mies, F=takki, G=ovenpieli)
E3: MOVE (A/F=mies)
E4: MOVE (A/F=mies, G=lattia)
E5: BE (F=mies, L=kylmä/väsinyt)
E6: BE manner (F=mies, L=hiljaa)
E7: BE (F=mies, L=ajatukset)
E8: MOVE (A=mies, F=*katse*, G=yö)

(1) Discourse Structure:

- < (E1, E2) SCENE1: ('huone')
- < (E2, E3)
- < (E3, E4) E1 < E2 < E3 < E4 ⊃ E5
- ⊃ (E4, E6) E6 ⊃ E7
- ⊃ (E6, E7) E8
- ⊃ (E4, E8)

(1) Comments:

1. C1-C4 are autonomous clauses, interpreted as moving the narrative (a pragmatic inference); after C4, E4 becomes the current TF.
2. E4 provides an antecedent for the nonautonomous clauses C5-8.
3. C6 is assumed to be a BE manner-sentence; C7 is related to E4 via E6.

(2)

C9: OLI LOKAKUU
was October
'It was October

C10: JA VETTA OLI SATANUT YOTA PAIVAA
and water had rained night day
and it had rained day and night

C11: NIIN ETTA PIHA OLI MUUTTUNUT PELKAKSI LIEJUKSI.
so that yard had changed sheer mud (TRANSL)
so that the yard had turned into a mire.'

(2) ANALYSIS:

SCENE2: The implicit Ground *ulkona* ('outside') has been established in the previous discourse (C8)

E9: Temporal frame=lokakuu

E10: MOVE (F=vesi, G=*piha*)

E11: MOVE (F=*piha*, G=*lieju*)

(2) Discourse structure:

> (E4, E10) SCENE2: (ulkona)
> (E4, E11)
< (E10, E11) E10 < E11 < E4

(2) Comments:

1. C9 provides a temporal frame; it does not denote a motion event.
2. C10 is bounded by context; the implicit Goal of E10 is *piha*, 'yard'.
3. E10 and E11 are both placed prior with respect to the current TF, E4 (on the basis of the semantics of the past perfect form); E10 is placed prior to E11 within the subnarrative (a pragmatic inference).

(3)

- C12: MIES ISTUI
man sat
'The man was sitting,
- C13: LAMPIMAAN UUNIIN NOJATEN
warm stove (ILLAT) lean (INSTR2)
leaning against the warm stove.
- C14: JA SEN MUSTAT PITKAT HIUKSET RIIPPUIVAT
and his black long hair hung
and his long black hair was hanging
- C15: RASKAINA SATEESTA.
heavy (ESS) rain (ELAT)
heavy from the rain.
- C16: SE RIISUI SAVISET KENGAT OVENSUUHUN
he stripped muddy shoes doorway (ILLAT)
He took off his muddy shoes at the doorway
- C17: JA REIKAISET VILLASUKAT SE NOSTI PELLINVARTEEN
and frayed woolsocks he lifted damper (ILLAT)
and his frayed woollen socks he put on the damper
- C18: KUIVUMAAN.
dry (ILLAT3)
to dry.'

(3) ANALYSIS:

SCENE3: *sisalla* ('back inside')

- E12 BEmanner (F=mies, L=lattia)
E13: BEmanner (A/F=mies, L=uuni)
E14: BEmanner (F=hiukset, L=*pa*)
E15: BE (hiukset, L=raskas)
E16: MOVE (A=mies, F=kengät, G=ovensuu)
E17: MOVE (A=mies, F=sukat, G=pellinvarsi)
E18: MOVE (A=mies, F=sukat, G=kuivua)

(3) Discourse Structure:

- ▷ (E4, E12) SCENE3: ('huone')
▷ (E12, E13)
▷ (E12, E14) E4 ▷ E12
▷ (E14, E15) E13
< (E4, E16) E14 ▷ E15
< (E16, E17) < E16 < E17 ▷ E18
▷ (E17, E18)

(3) Comments:

1. The Loc in E12 (*lattia*, 'floor') is understood from the previous context.
2. The Loc in E14, *miehen paa* ('the man's head'), is also understood from the context.

3. C16 and C17 are autonomous, and related to the current TF, E4; E17 becomes the new TF.
4. E18 is interpreted as being included in E17.

(4)

C19: ULKONA KUULUI TASAINEN LOTINA
 outside heard (IMPERS) steady squelch (NOM)
 'A steady squelching sound could be heard outside.'

C20: JA TUULI HEITTELI MARKIA PAPEREITA
 and wind threw (IMPERF) wet papers (PART)
 PUULIITERIN JA KAIVON VALILLA.
 shed and well (GEN) between (ADESS)
 and the wind threw about wet bits of paper
 between the shed and the well.

C21: KOIRA MAKASI KOPISSAAN
 dog lay kennel (INESS)
 The dog was lying in his kennel,

C22: JA ODOTTI SATEEN HELLITTAMISTA.
 and waited rain (GEN) easing
 waiting for the rain to ease off.'

(4) ANALYSIS:

SCENE4: *Ulkona* ('Back outside')

E19: MOVE (F=lotina, G=*subject of consciousness*)

E20: e1. BE (Figure=tuuli, L=kaivo) &
 e2. MOVE (A=tuuli, F=paperit)

E21: BE (F=koira, L=koppi)

E22: MOVE (A/F=koira, G=sateen_loppuminen)

(4) Discourse Structure:

⊃ (E17, E19) SCENE4: ('ulkona')
 ⊃ (E17, E20)
 ⊃ (E17, E21) E17 ⊃ E19
 ⊃ (E21, E22) E20
 E21 ⊃ E22

(4) Comments:

1. *Kuulua*, like other perception verbs, is analysed as a MOVE-predicate. It is not clear to me whether the subject-of-consciousness is the narrator or the protagonist, *mies*.
2. E17 is the current TF; it provides a temporal antecedent for C19 and C20.
3. E20 represents a complex event, consisting of two semantically related events, e1 and e2.

4. *Odottaa* in C22 is assumed to express 'mental movement'.

(5)

- C23: MIES VILKAISI POYDAN AARESSA
man glanced table (GEN) edge (INESS)
ISTUVAA TYTTOA
sitting girl (PART)
'The man glanced at the girl who was sitting
at the table.
- C24: JA VAIKENI.
and silenced (INCHO)
and became silent.
- C25: MYOHEMMIN SE SIIRTYI POYDAN PAAHAN
later he moved table(GEN) end (ILLAT)
JAKKARALLE
stool (ALLAT)
Later he moved onto a stool at the end of the table
- C26: JA VAIPUI PUOLIUNEEN.
and fell half-sleep (ILLAT)
and fell half asleep.
- C27: SEN SILMAT OLIVAT KEVYESTI KIINNI
his eyes were lightly closed
His eyes were half open
- C28: JA SEN PITKASSA MUSTASSA PARRASSA OLI
and his long black beard (INESS) was
HARMAITA JUOVIA.
grey stripes (PART PLUR)
and there were grey stripes in his long black beard.'

(5) ANALYSIS:

SCENE5: *Sisalla* ('back inside')

- E23: MOVE (A=mies, F=*katse*, G=tyttö)
E24: MOVE (A/F=mies, G=vaieta)
E25: MOVE (A/F=mies), G=pöydän pää)
E26: MOVE (A/F=mies), G=uni)
E27: BE (F=silmät, L=kiinni)
E28: BE (F=juovia), L=parta)

(5) Discourse Structure:

- < (E17, E23)
< (E23, E24) SCENE5: ('huone')
< (E24, E25)
< (E25, E26) E17 < E23 < E24 < E25 < E26 ⊃ E27
⊃ (E26, E27) E28
⊃ (E26, E28)

[5] Comments:

1. C23 is related to the current TF, E17; after that the TF moves from E23 to E26, via E24, and E25.

2. E27 and E28 are included in E26.

(6)

C30: TYTTO VILKAISI MIESTA
girl glanced man (PART)
'The girl glanced at the man

C31: JA PALAUTTI KATSEENSA KIRJAAN, JOTA HAN OLI LUKENUT
KOKO ILLAN.
and returned look (POSS) book (ILLAT)
and returned her eyes to the book (she had been reading
all evening)

C32: HETKEN PAASTA HAN VILKAISI UUELLEEN
MIESTA.
Moment (GEN) after she glanced anew
man (PART)
After a while she took another look at the man.'

(6) ANALYSIS:

SCENE 6: *Sisalla*; still inside; change of topic

E30: MOVE (A=tyttö, F=*katse*, G=mies)
E31: MOVE (A=tyttö, F=*katse*, G=kirja)
E32: MOVE (A=tyttö, F=*katse*, G=mies)

(6) Discourse Structure:

< (E26, E30) SCENE6: ('huone')
< (E30, E31)
< (E31, E32) E26 < E30 < E31 < E32

Chapter Eight

Conclusion

8.1. Introduction

In this thesis, I have proposed a classification of predicates and situation types which is based on the notions of 'perceived energy' (dynamicity), and 'boundedness'. The main advantages of this type of system is that, first of all, both abstract and concrete situations can be analysed in a unitary fashion, and secondly, the localistic notions of movement and location can be employed at different levels of linguistic representation.

In this final chapter, I am going to outline the aspectual systems of Finnish and English (Sections 8.2. and 8.3.); the levels of representation are summarised in Section 8.4., and finally in Section 8.5. I shall discuss some remaining problems, as well as suggest topics for further research.

8.2. Aspect in Finnish

Aspect can be analysed in Finnish at the following three levels:

- (1) 1. Aspectual Class of Predicates
2. Aspectual Perspective of Atomic Sentences
3. Aspectual Perspective of Contextualised Sentences

First, on the basis of their *inherent* meaning, predicates can be divided into the following classes:

(2)

1. DYNAMIC:

A. Neutral:

i. Motion:

nauraa ('laugh'), kävellä ('walk'),
juosta ('run'), kirjoittaa ('write'),
vapista ('shake')

ii. Nonmotion:

seistä ('stand'), istua ('sit'), maata ('lie'),
levätä ('rest'), nukkua ('sleep')

B. Bounded: (Punctuals)

saavuttaa, voittaa ('win'), julkaistaa ('publish'),
antaa ('give'), ostaa ('buy'), ampua ('shoot'),
työntää ('push')

2. STATIVE:

C. Unbounded:

i. Neutral:

(olla) Lontoossa/kalpea/vihainen/opettaja
(('be) in London/pale/angry/teacher')

ii. Noncontingent:

sisältää ('contain'), omistaa ('own'),
tuntea ('know'), ymmärtää ('understand'),
vihainen/iloinen ('angry/happy')

It should be noted that some predicates have dual membership. For example, agentive states (*vihainen*, 'angry', *iloinen*, 'happy', etc.) can refer to a motional situation, so *Marja oli vihainen* can have an inchoative meaning in *Marja oli vihainen kun Pekka rikkoi maljakon* ('Marja was angry when Pekka broke the vase'), or in a different context, the sentence can refer to a contingent or a noncontingent state. Similarly, it is sometimes possible for a punctual predicate to denote an extended situation. For example, the Iness3 form, which normally only occurs with durative predicates, is acceptable in *Marja oli ostamassa hametta* ('Marja was buying a dress') if the sentence is interpreted as referring to the shopping trip as a whole.

The second level involves nonrepetitive extended sentences, i.e. *atomic* sentences which have simple aspect and a syntactically/semantically singular subject and object NP, and may be combined with a FOR- or an IN-adverbial. Atomic sentences can be divided into *autonomous*, exemplified by (3), and *nonautonomous*, exemplified by (4):

(3)

1. AUTONOMOUS (Perfective)

- A. Bounded Verb[SP] + NP[ACC] (border-crossings):
(Matti voitti kilpailun/tuli kotiin)
Matti won race /came home
- B. Neutral Verb[SP] + NP[ACC] (extended journeys)¹:
(Matti kirjoitti kirjeen/ui kilometrin/luki tunnin/
käveli kotiin)
Matti wrote letter/swam kilometre/read hour/
walked home
- C. Neutral Verb[SP+IMPERF] + NP[ACC]:
(Matti lueskeli tunnin)
Matti read hour
- D. Neutral Verb[SP+PERF] (+ NP[ACC]):
(Matti naurahti/lukaisi kirjan/istahti)
Matti laughed/read book/sat

¹There are also zero-bounded motion predicates denoting a relative terminal point, which can take an partitive case and still indicate a perfective reading. Thus, e.g. *Marja teroitti veistä* ('Marja sharpened the knife') can be either perfective or imperfective, depending on context.

(4)

2. NONAUTONOMOUS (Locative)

A. *Inessive*

1. Neutral Verb[SP (+ IMPERF)] + NP[LOC]:
(Matti ui/skenteli järvessä)
Matti swam lake
2. Neutral Verb[SP] + NP[PART] (+ NP[LOC]):
(Matti kirjoitti kirjettä huoneessaan)
Matti wrote letter room
3. Copula[SP] + Neutral Verb[INESS3] (+NP[LOC]):
(Matti oli leikkimässä huoneessaan)
Matti was play room
4. Copula[SP] + Neutral State[ESS]:
(Matti oli sairaana)
Matti was ill
5. Copula[SP] + Neutral Verb[PP] + NP[PART]
(Matti oli kirjoittanut kirjettä)
Matti was written letter

B. *Ablative*²:

Copula[SP] + Punctual[PP] + NP[ACC]/LOC
(Matti oli tullut kotiin)
Matti was come home

C. *Adessive*:

Copula[SP] + Punctual[INF5] (+NP[ACC])
(Matti oli kaatumaisillaan)
Matti was fall (INF5)

(Note that NP[ACC] refers to a goal phrase, and NP[LOC] to a locative phrase). Since the atomic level is the most important one from the point of view of narrative structure, I have to a large extent ignored repetitive sentences. A different set of rules is naturally required for e.g. the case marking of the object NP in these types of sentences. Consider the following in this respect:

- (5) a. Matti kirjoitti kirjeen joka päivä.
Matti wrote letter (ACC) every day
- b. Matti antoi Marjalle kirjoja
Matti gave Marja (ALLAT) book (PART PLUR)
koko talven.
all winter
- c. Potilaita kuoli keltatautiin
Patient (PART PLUR) died jaundice (ILLAT)
sinä talvena.
that winter

²As we have seen, retrospective sentences are assumed to refer to a *noncontingent* state; hence, they are not interesting from the point of view of narrative structure.

The accusative object in (5a) indicates that the atomic sentence *Matti kirjoitti kirjeen* is bounded; however, the frequency adverbial, *joka päivä* indicates a habitual (unbounded) reading for the whole sentence. *Matti antoi kirjoja Marjalle* in (5b) is, by contrast, unbounded because the partitive object indicates an iterative reading; however, in the presence of the FOR-adverbial, *koko talven*, the situation is interpreted as being terminated (bounded). In (5c) the partitive subject indicates an iterative reading for *Potilaita kuoli keltatautiin*, and the whole sentence is unbounded, as the locational adverb *sinä talvena* has no bounding power.

Another thing to note is that in the previous chapters it was assumed that all the BE-sentences were 'inessive' (i.e. the subject is located in the middle of a situation). However, as (4) illustrates, other values can be specified for this sentence type, viz. *adessive* for prospective sentences (the subject is about to enter a situation), and *ablative* for ablative sentences (the subject has just exited from a situation).

Finally, we also need to take into account the fact that in some cases the context can be used to alter or specify the meaning of an atomic sentence. For instance, motion predicates are normally semantically incomplete without a locative expression, or a durative temporal adverbial. However, there are contexts in which a motion verb can occur without such a modifier. Consider, for instance, the sentences in (6):

- (6) a. Marja nauroi kun Pekka tuli kotiin.
Marja laughed when Pekka came home
- b. Marja huusi kun Pekka tuli kotiin.
Marja shouted when Pekka came home
- c. !Marja juoksi kun Pekka tuli kotiin.
Marja ran when Pekka came home
- d. !Marja leikki kun Pekka tuli kotiin.
Marja played when Pekka came home

Both (6a) and (b) are perfectly acceptable, having an inchoative meaning. However, this applies only to a small subset of motion verbs: (6c) and (d) cannot have an inchoative meaning; hence, they are unacceptable (semantically incomplete).

Similarly, a neutral state can be interpreted as a noncontingent or contingent one, depending on context, as is illustrated by the following:

- (7) a. Pekka oli Lontoossa joka viikko.
Pekka was London (INESS) every week
- b. Pekka oli Lontoossa kun Marja soitti.
Pekka was London (INESS) when Marja rang

The adverbial *joka viikko* in (7a) indicates a habitual (noncontingent) reading, while

the WHEN-clause in (7b) makes it clear that *Pekka oli Lontoossa* denotes a contingent state.

8.3. Aspect in English

It seems to me that in English aspect has to be analysed at the following *four* levels:

(8)

1. Aspectual Class of Predicate
2. Aspectual Class of Basic Proposition
3. Aspectual Perspective of Extended Sentences
4. Aspectual Perspective of Contextualised Sentences

First of all, predicates can be classified as follows:

(9)

1. DYNAMIC:
 - a. Motional: work, run, make, walk, laugh,
shiver, cough, reach, win, play, read
 - b. Nonmotional: wear, look (nice), sit, stand, rest, sleep
2. STATIVE:
 - a. Contingent/Neutral: be pale/in London/
hungry/aggressive/a hero
 - b. Noncontingent: know, contain, possess, have, love,
understand, resemble, weigh, be 6 ft tall,
be a man

A couple of points should be noted regarding the classification in (9). First, some of the predicates have dual membership: for instance, agentive states (*angry*, *hero*, etc.) can be both dynamic and stative. Second, a small number of predicates, such as *reach* and *win*, are assumed to be inherently punctual (i.e. always occur with a nondispersive object NP); similarly; there are a number of zero-bounded motional predicates (i.e. predicates which always occur with a zero-bounded object NP), including *read*, and *sharpen*.

Second, we can divide Basic Propositions (i.e. proposition from which all aspectual/temporal information is excluded) as follows:

(10)

- | | |
|---------------------------------------|--------------|
| 1. Extended Journeys: | BOUNDED |
| Motion Verb + dispersive object: | |
| MARY WRITE LETTER | |
| 2. Border Crossings: | BOUNDED |
| Motion Verb + nondispersive object: | |
| MARY REACH SUMMIT | |
| 3. Zero-bounded: | ZERO-BOUNDED |
| a. Motion Verb + Zero-bounded object: | |
| MARY READ A BOOK/PLAY A SONATA | |
| b. Motion Verb: MARY RUN/SCREAM | |
| 4. Dynamic Nonmotional: | UNBOUNDED |
| MARY WEAR A HAT/LOOK SAD | |
| 5. Stative: | UNBOUNDED |
| MARY BE ILL/IN LONDON | |

Third, we have the following types of extended (nonrepetitive) sentences:

(11)

1. AUTONOMOUS:
 - A. inherently
 - a. Extended/border-crossings[SP]
(Mary wrote a letter/reached the top)
 - b. Zero-bounded[SP]³
(Mary read a book/ran.)
 - B. Nonautonomous + Durative adverbs:
(Mary was in London for two days)

(12)

2. NONAUTONOMOUS⁴
 - a. Stative[SP]: Mary was ill
 - b. Dynamic[PROG]: Mary was writing a letter

Again, we need a different set of rules for iterative/habitual sentences; thus, in
(13)

- (13) a. Mary wrote letters (for hours).
b. Mary wrote a letter every day (for years).

³This is the default value for sentences containing a zero-bounded predicate.

⁴I am ignoring here all the other imperfective aspects (e.g. the prospective and the ablative).

the basic proposition MARY WRITE A LETTER is inherently bounded, but the plural object NP in (a) indicates an iterative reading for the sentence, and the frequency adverbial, *every day*, in (b) indicates a habitual reading.

Finally, the context can be used to alter or specify the meaning of an atomic sentence. Consider, for instance, the following:

- (14) a. Every Sunday they used to sit down in the living room after lunch. Mary wrote a letter to her Grandmother, and John did his homework.
b. Mary ran when we arrived.

The frequency adverbial *every Sunday* in (14a) indicates a habitual reading for the subsequent clauses, while the punctual temporal adverbial (i.e. the *when*-clause) in (14b) makes it clear that *Mary ran* has an inchoative reading.

8.4. Levels of Representation

We can distinguish the following levels of semantic representation.

First, predicates can be divided into dynamic and stative; the former further into neutral (motion and nonmotion) and punctual, and the latter into neutral/contingent and noncontingent.

Second, sentences are assumed to refer to motion events, which can be classified as follows:

(15)

1. MOVE (Motion predicates):

Autonomous sentences:

MOVE (Agent/Figure=x, (Source)=y, (Path)=z, Goal=w);
(Matti kävelä kotiin)
Matti walked home

Nonautonomous sentences:

MOVE (Agent/Figure=x);
(Matti kävelä)
Matti walked

2. BE manner (Dynamic-Nonmotion):

BE manner (Figure=x, Loc=y)
(Matti istui verannalla)
Matti sat on the balcony

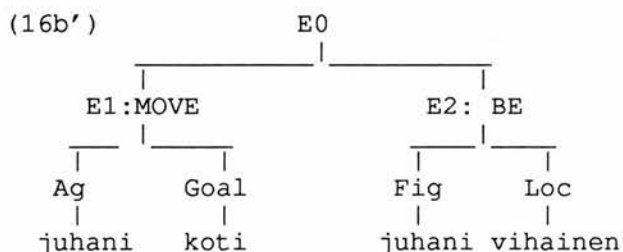
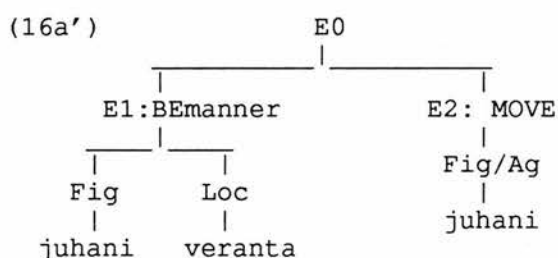
3. BE neutral (Contingent States):

BE (Figure=x, Loc=y)
(Matti oli verannalla)
Matti was on the balcony

Third, we can talk about a complex event, E0, consisting of two spatially (semantically) related clauses, denoting E1 and E2. Thus, the examples in (16)

- (16) a. Juhani istui verannalla kutoen.
Juhani sat balcony (ADESS) knit (INF2)
'Juhani sat on the balcony, knitting.'
b. Juhani tuli kotiin vihaisena.
Juhani came home angry (ESS)
'Juhani came home angry'.

can be represented as follows:

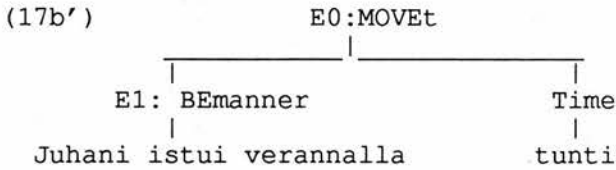
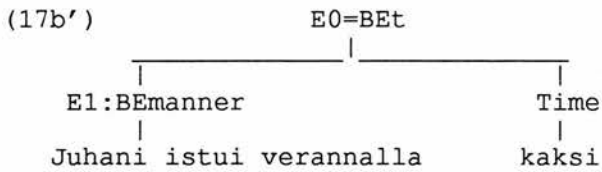


Note further that E0 in (16a') and (16b') can be classified as a BEmanner predicate, which takes E1 and E2 as its arguments.

At a higher level of representation, we can locate a motion event (a spatial entity) in time. For instance, the sentences in (17)

- (17) a. Juhani istui verannalla tunnin.
 Juhani sat balcony (ADESS) hour (ACC)
 'Juhani sat on the balcony for an hour.'
- b. Juhani istui verannalla kahdelta.
 Juhani sat balcony (ADESS) two (ABL)
 'Juhani was sitting on the balcony at two.'

can be represented as follows:



Finally, we can talk about two separate spatio-temporal entities referred to by two autonomous clauses, whose relationship is pragmatically determined. For example, we can say that there is a causal relation between the events described in (18a) and (b):

- (18) a. Marja rikkoi maljakon
 Marja broke vase (ACC)
 'Marja broke the vase'
- b. ja Juhani purskahti itkuun
 and Juhani burst cry (ILLAT)
 'and Juhani burst into tears.'

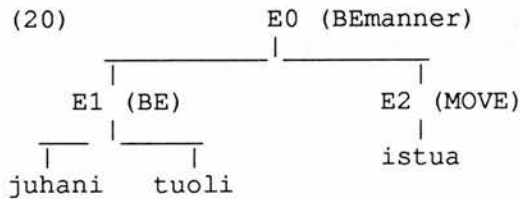
8.5. Remaining Problems

There are a number of problems/research areas which have been ignored in this thesis.

First, the problem regarding *semantic decomposition* has been glossed over; specifically, except in the case of verbs of perception, I have ignored the Figure and Path arguments that may be associated with motion predicates. For instance, we might argue that *Mary hit John* should be represented as follows:

(19) MOVE (Agent=mary, Figure=*hand*, Goal=john)

Similarly, it seems to me that BE-manner-predicates can be further broken down into subcomponents, which include MOVE-component. Thus, for instance, *Juhani istui tuolilla* ('Juhani was sitting on the chair') might be represented as follows:



where the MOVE-predicator (E2) represents the abstract dynamic quality associated with verbs like *istua*, rather than actual movement. This area certainly deserves further attention.

Furthermore, I have taken a rather cavalier attitude to Discourse Structure in the previous chapters. For instance, discourse factors, such as information structure (topic/focus structure), have been largely ignored when analysing the spatio-temporal structure of narratives. Similarly, only a small subset of subordinate clauses have been discussed; the temporal structure of complement clauses (indirect discourse) has not been analysed here.

Another related topic requiring further research concerns the relationship between temporal and nominal anaphora. Consider, for instance, the sentences in (21) (taken from Webber, 1988: 70):

- (21) a. Mary climbed Mt. McKinley.
 b. The preparations took her longer than the ascent.

where the nominals *the preparations* and *ascent* denote motion events, and the former can be considered as a subevent of the latter. Similarly, the interaction between tense and temporal adverbials, especially anaphoric adverbials, as in *Mary came at five, and John two hours later* has only been touched upon.

Finally, I have not elaborated on the spatio-temporal anaphors in English. For instance, unlike the Iness3 in Finnish, it seems to me that the English progressive construction can occur with both WHEN- (punctual), and FOR- (durative)

adverbials; in other words, it can refer either to a dynamic process (22a), or to a locative state (22b):

- (22) a. John was writing a letter for an hour.
b. John was writing a letter when we arrived..

By contrast, it seems that some motion predicates in English behave similarly to those in Finnish; for instance, the simple past sentences in (23) are semantically incomplete, while the ones in (24) have an inchoative reading:

- (23) a. !The children played when I arrived home.
b. !John wrote when we arrived

- (24) a. John ran when I arrived.
b. John cried when I arrived.

It remains to be seen how languages like English can be analysed within the sort of framework proposed in this thesis.

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