

PROGRESSIVE STRUCTURES OF
ENGLISH AND CATALAN

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Chapter 1

Introduction, Aims, and Preliminary Definitions

1.1 Introduction

1.1.1 General introduction and aims

The term 'aspect' is used by linguists to refer to the means by which natural languages express non-deictic temporal notions; more specifically, to the relation(s) between a given situation (an event or a state) and the period of time in which it happens or holds.¹ One of these notions is the categorisation of situations according to their inherent temporal structure, their *aktionsart* (the German technical term literally meaning 'kind of action'), also referred to as 'aspectual character' (Lyons 1977:706), aspectual type or situation type. Probably the most prominent feature of a situation is the presence or absence of inherent temporal boundaries. For example, when I write my name, the situation has an inherent termination, a temporal boundary inherent to the lexical meaning of the verb 'write' together with that of its argument 'my name'. Writing my name cannot last for ever. When I swim in the sea, this is an event which has no inherent temporal boundaries. In principle, I could swim for many hours, or days. Again, the lack of inherent temporal limits is due to the lexical meaning of the predicate 'swim'. Note, however, that the presence of a goal like 'to the far bank of the lake' would introduce temporal limits to the swimming event. Whether a sentence denotes a situation with or without temporal boundaries depends on the lexical meaning of the predicate, and on the nature of its arguments and adjuncts. The criteria for a categorisation of situations and the existing typologies of *aktionsart* are discussed in this chapter (section 1.2.2).

¹The term 'situation' is not to be taken in the sense of Situation Semantics (Barwise, J. and J. Perry 1983). My use of the terms 'event' and 'state' responds to an *a priori* classification of situation types that will be discussed in section 1.2.

A predicate with its arguments and adjuncts is the semantic basis of a canonical sentence. In addition, a sentence contains lexical items that give instructions for the temporal evaluation of the situation expressed by the predication complex. Tense markers, for instance, locate it deictically with respect to the time when the sentence is uttered. In addition to Tense, a different type of temporal information is whether a situation should be viewed as a whole or whether we are interested in focusing on its internal structure. This is called 'aspect as point of view over a situation' or 'viewpoint aspect' (using a term from Smith 1991) and is marked through a variety of linguistic devices, among them affixes and periphrases. For instance, I can speak of a "name-writing" event saying that 'I wrote my name', viewing the event as a whole, as something that took place entirely in the past. Or I can choose to express something relevant of its development, such as 'I began to write my name on the document', or 'I am writing my name on the document'. As the examples illustrate, the aspectual content of the sentence does not depend exclusively on the lexical meaning of the predicate. Other linguistic devices are, in the first example, the combination of *begin* plus the infinitive of the verb containing the lexical information of the event, which expresses the speaker's focus on the onset of the event; in the second example, the combination of *be* and the lexical verb affixed with *-ing*. The former is an example of the class of aspectualisers, verbs whose lexical content restricts the focus of the sentence to a part of the event denoted by their complement. The latter is an instance of the progressive or continuous form, informally speaking, the form of emphasis on the development of an event. The traditional distinction perfective vs. imperfective in Romance languages expressed overtly in the simple past tense forms of the verb paradigm --Catalan *cantares* vs. *cantaves*--, is also aspectual in the sense of point of view.

This dissertation is a study of the progressive structures of two natural languages: English and Catalan. Progressive structures are those syntactic structures and lexical items which express the speaker's focus on the development of the situation expressed

by the predicate of the sentence and its complements and adjuncts. The best-known progressive structures are the progressive periphrases, *be + V-ing* in English and the verbal sequences of Catalan *estar + V-nt* and *anar + V-nt* (which have equivalences in several other Romance languages). Each of the components of a periphrastic form (i.e. the first verb, traditionally considered an auxiliary, the second verb or lexical verb, which expresses the event that is in progress, and the affix *-ing / -nt*) contribute to the progressive interpretation of the sentence in which they occur. The study that we undertake in this dissertation takes all three elements into consideration and attempts to characterise the syntactic, semantic and lexical components that enable a progressive interpretation not only for a progressive periphrasis but also for other structures. Given that considerable amount of the work is devoted to syntax, I will briefly introduce the linguistic framework in which it is set.

1.1.2 Introduction to the Syntax framework and specific aims

The study of the syntax of progressive aspect is undertaken within the Principles and Parameters framework (from now on P&P, see Chomsky and Lasnik 1993 for the latest formulation), whose aim is to establish a theory of universal grammar. A theory of universal grammar is conceived of as the set of innate (formal) principles that restrict or determine the grammatical properties that individual languages may have. Principles of grammar are thought to be subject to parametric variation. Thus, variation in the formal properties among languages is caused by differences in the values for the parameterised principles. For instance, the fact that in many languages the head of a phrase precedes its complement (e.g. English, Catalan), whereas in others (e.g. Japanese) the complement precedes the head has been attributed to opposite settings of a particular parameter, in this case the head parameter.

As far as the lexicon is concerned, the P&P framework assumes the existence of two kinds of items: lexical categories, i.e. those with substantive content and which head

Noun Phrases, Verb Phrases, Adjective Phrases, and Prepositional Phrases; and functional categories, items which lack substantive content, and "do not enter into theta-marking" (Chomsky 1995:54), although, like lexical categories, they do select their complements. The realisation of functional categories seems to be subjected to parametric variation (Fukui and Speas 1988, Ouhalla 1991). Two functional categories are Complementiser and Determiner, which head the phrases CP and DP, respectively. Tense Phrase is also considered a functional phrase (Pollock 1989), though not unanimously (see Giorgi and Pianesi 1991, Zagana 1992). Other functional categories are Agreement (Agr) and, according to some scholars, Aspect (e.g. Ouhalla 1991, reviewed in chapter 5). In the present work we will attempt to characterise the role of functional categories in the syntax of progressive aspect.

The interest of generative linguists in the relation between syntactic realisation and interpretation of Tense and Aspect has grown in recent times. As far as aspect is concerned, work in the P&P theory follows the traditional distinction between aspect as *aktionsart* (the lexically expressed situation type) and aspect as point of view over a situation. The former is viewed as profoundly intertwined with the linking between the lexicon and syntax, i.e. the organisation of thematic structure that predicts the particular syntactic status of arguments in phrase structure (Tenny 1987, Grimshaw 1990). This area of aspect is not in the scope of the present work.

Aspect as point of view and Tense are not part of the predication relations established in the sentence; thus temporal information in general is viewed as a superposed layer of information that undergoes its own process of interpretation. The strongest view (see Hornstein 1990:9), even holds that "the tense system constitutes an independent linguistic level, with its own set of primitives, its own syntactic rules of combination, and its own rules of interpretation." Zagana (1988, 1992) tries to integrate Tense within Syntax. Thus, although she postulates the existence of an independent Temporal

Argument structure with the tense marker as a role assigner, and a mechanism of 'tense construal' at the module of interpretation or Logical Form, temporal arguments are subjected to the same syntactic principles as referential NP arguments (see chapter 5, section 5.3). In both these approaches, and in others that will be seen in this thesis, certain syntactic markers and lexical items encode specific temporal relations that allow to locate the situation in time. One instantiation of this encoding is through functional categories. For instance, certain verbal inflectional affixes have been assumed to realise heads of functional categories.

In that approach, and particularly in the domain of aspect, we often assume assumptions about the meaning of the lexical item that realises a given functional category. Such assumptions are acceptable as idealisations of the contribution of the affix to the interpretation of the sentence. But before we can give them full validity, we need to prove their semantic and syntactic accuracy. Unfortunately, this is not always done. In the case of the progressive periphrases, for instance, part of the Syntax bibliography that I have consulted places the whole emphasis either on the affix or on first verb (the "auxiliary"). Thus, Ouhalla (1991) suggests that *-ing* gives the periphrasis its progressive meaning in English, and accords the verb *be* the status of a dummy (see chapter 5); in contrast, Lema (1991) suggests that the first verb in the Spanish sequence *estar + V-ndo, estar*, is the head of a functional Aspect Phrase with progressive features, completely disregarding the role of the affix *-ndo* (see chapter 6).

The hypothesis that seems most plausible is that a progressive interpretation is compositionally elaborated from various elements, lexical items and structural relations between them, rather than being the result of a strict mapping between an affix (or an "auxiliary") and a functional projection Aspect with the value [+progressive]. It is the goal of the present work to attempt to provide such an analysis. To this aim another one

can be added: to provide a well-motivated characterisation of the content of functional categories involved in the expression of progressive aspect.

The task proposed in the previous paragraph is made more challenging by including among the progressive structures of Catalan the Imperfective tense-aspect morphemes of Romance inflectional morphology, represented in this dissertation by the Catalan indicative imperfective past /ba/. This lexical item may express, besides progressive aspect, other related notions such as a habitual situation that holds in the past, and a state that holds in the past. For the sake of consistency, any account of the progressive expressed by the imperfective past has to be able to explain the other main values of the affix; with this aim in mind, evidence will be examined concerning the co-occurrence restrictions imposed on the presence of aspectual adjuncts.

A few words should be said about the syntactic status of verbal inflectional affixes, which has evolved considerably since the early formulations of the theory, known as the Government and Binding Theory (Chomsky 1981). In the P&P approach there is general agreement that affixation of inflectional morphemes is a syntactic process in which through a sequence of movements the bare (uninflected) head of the VP "picks up" the inflectional affixes that the verb is supposed to have at the end of the derivation. The approaches to the syntax of the English progressive periphrasis that we will review in chapter 5 (Ouhalla 1991, Cowper 1992) were produced at this stage of the theory. In the subsequent stage, the Minimalist Program (Chomsky 1995), affixes are no longer heads of functional categories. Rather, they come out of the lexicon already affixed to their root, i.e. the VP head is a fully inflected form. "The functional categories of Agr and T in this system are the locus of tense and agreement features that may check off or eliminate the corresponding features on a verb that moves up and adjoins to these categories" (Marantz 1994:18). In chapters 5, 6 and 7 of this dissertation, I assume this checking mechanism.

The structure of this dissertation is the following: in the rest of the present chapter I provide some necessary definitions of notions related to the categorisation of situations, for instance the distinctions state vs. event, the notions of inherent end point, duration, iteration. Chapter 2 attempts to provide a semantics background on what is progressive aspect in two ways: first of all, through direct study of the contrast between the interpretation of sentences whose verb occurs in the progressive periphrasis vs. the simple (i.e. non-progressive) form in English. Secondly, I review a selection of the previous literature on the progressive in various semantics frameworks. Special attention is devoted to the semantics approach developed in Herweg (1991a,b), an attempt at merging the best of event-based semantics and interval-based semantics. The result is a theory of tense and aspect which has both events and periods of time as basic conceptual entities. In the final sections of chapter 2, the lexical and semantic specifications of the progressive periphrasis *be + V-ing* in English are discussed.

Chapter 3 is a study of the semantics of Catalan verbal sequences that express progressive aspect. The two sequences express different progressive perspectives which depend on the lexical contribution of the first item. We provide a formal treatment of progressive types within the framework of Herweg (1991a,b), and a definition of the lexical entries of progressive verbs *estar* and *anar*.

Chapter 4 is devoted to the content of the English affix *-ing* and the Catalan affix *-nt*. It is the central chapter of this dissertation in the sense that there we establish the link between the structure and the interpretation of progressive structures built around those affixes. Then, chapters 5 and 6 attempt to motivate a syntactic analysis of the structures which express progressive aspect in English and Catalan, respectively. A substantial part of the discussion is centered around the progressive periphrases, though other structures such as postnominal *V-ing* clauses, CP adjuncts, and perception clauses are also considered. Chapter 7 is intended as a detailed study of the semantics and syntax of the imperfective

past tense-aspect morpheme in Catalan, where I account for its main readings, though special focus is placed on the progressive and habitual readings, since they are reflected in the co-occurrence restrictions imposed on aspectual adjuncts.

Before we proceed to the following section, a brief note on the corpus of sentences is due. During my research I analysed occurrences of the relevant structures in written and oral form in English and in Catalan (occasionally in other Romance languages). In addition, a source of relevant data came from contrasting the expression of progressive aspect in pairs of parallel sentences, particularly from the original and translated version of the novel *The Secret Pilgrim*, by J. Le Carré.

1.2 Preliminary definitions

1.2.1 General concepts

In the discussion of the semantics of the progressive, there are a few terms which often refer to different concepts. The purpose of this subsection is to clarify the concepts as well as to establish the terminology that is going to be used in this dissertation.

1.2.1.1 Duration - Point

There are verbs (predicates) which describe situations that are conceived as lasting for a certain period of time. They are traditionally called durative. To walk in the park, to sleep, to teach at a school, to know a foreign language, to write a thesis, to read a novel, to build a house are durative situations. Some durative situations imply change, i.e. something "happens" in that time period, and other durative situations describe states, i.e. nothing "happens" in the time period. The former are events which consist totally or in part of a process. Later it will be seen that the process may or may not lead to a definite end-point, to a culmination.

The term duration as we are using it denotes a notion which is part of the inherent lexical meaning of a verb and its arguments. However, the terms duration and durative have also been used to refer to the linguistic devices which grammaticalise the speakers' focus on the temporal extension of a situation, i.e. its development or its habitual occurrence, rather than on its completion. In Comrie (1976:44) those predicates occurring in the English progressive periphrasis are said to express durative situations. Similarly, descriptive grammars of Catalan use the term 'durative' for the periphrases whose lexical verb occurs in the gerund, i.e. the equivalent forms to English progressive forms.

The opposite of duration is point. A point or punctual situation is one which does not last in time but takes only a moment. A punctual situation, by definition, has no internal structure (Comrie 1976: 42). To cough, to knock on a door, to reach a summit are typical and well-known punctual situations. Punctual situations may occur individually (there is a knock, a cough), but they often occur in series: when someone coughs, there are several instances of the individual coughing event, for example.

1.2.1.2 Existence of inherent end point or culmination

Some predicates denote situations which have an inherent well-defined end-point, a termination, "must of necessity come to an end" (Comrie 1976:44). These are known as telic predicates. Other names are: bounded (Jackendoff 1990), delimited (Tenny 1987), or culminated (Moens and Steedman 1988). One cannot say that the event has taken place if it has not come to the inherent end. Example predicates are 'to write a thesis', 'to read a book', 'to build a house'. Predicates denoting situations which lack an inherent end-point are called atelic. One can say that an atelic situation has occurred without it reaching an end that was different from the previous development. Example predicates are 'to walk in the park', 'to sleep'.

Some linguists use the term 'Aspect' to refer to the existence or absence of an endpoint. One of the most influential works in recent syntactic-semantic work, Tenny's dissertation (1987), provides a very illustrating quote:

"Aspect usually refers to the organization with respect to time, of an event represented by some linguistic expression (...). This includes such things as whether the event is understood to involve change over time, whether it has a definite endpoint or is ongoing in time, whether or not it is repetitive or not, and so on." [Tenny 1987:12].

In this view, the progressive form is understood as one of the linguistic expressions which changes delimitedness into non-delimitedness.

When I started illustrating the notion 'inherent endpoint', I used the term 'predicates', not verbs. Since Verkuyl (1972) and (1989:40) proposed "that aspect be 'taken away' from the verb and be assigned to higher levels of sentential structure", it has become clear that the existence of a final end-point is not always an inherent feature of the verb. As in our brief examples in the introduction, it frequently depends on its arguments: the subject, object, goal complements, etc., i.e. it is compositional. Apart from Verkuyl's own CAT (Compositional Aspectual Theory), fully developed in his 1989 paper, a comprehensive list of factors which determine the expression of boundedness in a sentence is given in Jackendoff (1990: 28-29), collected from a number of references he cites. Both Verkuyl and Jackendoff conceive the compositional determination of the aspect/boundedness of a sentence as an algebra, with bounding functions that apply compositionally to different parts of the sentence.² Here I will only reproduce those related to the arguments of the verb.

²See Tenny (1987) and Sanfilippo (1991) for accounts of the link between subject-object asymmetries in the determination of sentential aspect and the thematic information of a verb: Tenny's Aspectual Interface Hypothesis, Sanfilippo's Thematic-Aspectual Interface.

An important role is played by the type of NPs that occur as object, subject and goal complement. Whether the NP is a definite singular, a bare plural, or a determiner-quantifier (generalized quantifier) determines the boundedness of the situation denoted by the sentence.

- (1) a. Bill ate the hot dog *for an hour.
b. Bill ate hot dogs for an hour.
c. Bill ate some hot dogs ??/*for an hour.

Note that the role of the durational adverbial expression *for an hour* is to place a temporal limit to the situation. Thus it is used as a test for the lack of inherent temporal limits of the predicate it attaches to. Grammaticality with a durational implies that the predicate has per se no temporal limit. Ungrammaticality with a durational implies that the predicate has an inherent temporal limit, and consequently does not accept further limitation.

In (1a) the transitive verb "eat" has a definite singular object. When the action denoted by the verb has affected the entity denoted by the object, it can be said that the event has taken place. In (1b) the object is a bare plural, thus an indefinite plural. The action denoted by the verb never definitely affects all the entities denoted by the indefinite object.

What holds for the object NP holds for the NP complement of the PP denoting goals of motion verbs: A definite goal (as in (2a) and (2c)) provides a bounded reading for a directional motion verb, while a bare plural goal turns the situation unbounded (2b):

- (2) a. Bill ran into the house.
b. Bill ran into houses.
c. Bill ran into some houses.

The number and definiteness of the subject plays a slightly different role, i.e. there are subject-object asymmetries in the contribution of NP reference to aspect compositionality. A definite singular subject preserves the telic nature of the verb phrase (3a). A bare plural subject, as in (3b), may be assigned a distributive interpretation, giving rise to a multiple event reading; the telic predicate thus becomes atelic.

- (3) a. Bill ran into the house *for an hour.
 b. People ran into the house for an hour.

Other factors which influence on the boundedness of a sentence listed by Jackendoff are the lexical choice of preposition. As illustrated in (4), while *into* denotes a definite end point, *towards* denotes the way (i.e. the process) but not the end point.

- (4) a. Bill ran into the house.
 b. Bill ran towards the house.

The contribution of the arguments of a predicate in the aspect of a sentence is noted also for Catalan and Spanish. Early work by Badia i Margarit (1962: 412) uses more intuitive words to recognise this role: "the interest of the speaker who, according to the circumstances, prefers one particular aspect to the others. Thus, there is a difference between *ha saltat el bassal* 'she has jumped the pond' and *la nena ha saltat tot el matí* 'the girl jumped the whole morning'. The obvious consequence, he remarks (vg. footnote 4, p. 412), is that one cannot classify all verbs in a simplistic fashion since it is the sentential context what finally determines the situation type expressed by the sentence. With these words he intuitively recognizes the compositional extent of aspect.

A more rigorous study of Catalan is due to Martínez Lafnéz and de la Torre (1989). Their categorisation of inherent aspect is done according to a single opposition first proposed in the study of Swedish by Platzack (1979, cited in the Catalan work): the feature [+/-divisible] of both NPs and sentences. They also characterise object and subject

asymmetries in the contribution to sentence aspect. Some notes on the application of *aktionsart* typologies to Spanish can be found in Moreno (1987, 1991).

1.2.1.3 State vs. Event

While the other features made reference to the internal organisation of the situation with respect to its occurrence in time, this distinction has to do with the nature of situations. If a predicate denotes a situation which "happens", it denotes an event. If a predicate denotes a situation which holds for a period of time, but during which nothing "happens", it denotes a state. Gabbay and Moravcsik (1980) define states in the following way:

States are instantiations of a temporal property P of a thing x such that:

1. P(x) holds for some duration. It cannot be instantaneous.
2. P(x) does not imply certain specific changes in x.
3. P(x) does not allow gaps or interruptions.

In contrast, events imply changes, may be instantaneous or have duration, may or may not lead to "a terminal state that is different from the states characterising partial stages of events" (p. 68), and allow gaps.

The notion of a state verb seems to be a universal one. Certain situations are characteristically states: verbs denoting position, psychological states and feelings, possession, measure, physical and intellectual perception, abstract relations such as consisting and applying, and so on. (see Quirk et al. (1985), Leech (1971) for English; Gràcia (1989) for Catalan).

Progressive aspect is sensitive to the distinction state-event, as will be seen in chapter 2.

1.2.1.4. Iteration

Iteration is the occurrence of a series of events all of the same kind. In English iterative aspect is expressed by a variety of means. Several verbs are lexically, or we should say, morphologically marked for iteration by the suffixes *-le* and *-er*: *twinkle*, *teeter*, *hammer*, *sprinkle*, *giggle*, *wriggle*, etc. (see Curme (1931: 396), cited in Brinton (1991)). Verbal aspectual morphology can determine an iterative interpretation for an event, e.g. for a punctual event. This is the case with the combinations *be + V-ing*, *keep + V-ing*, *continue + V-ing*, when V is a point verb, as in *John is/keeps hiccupping*. Through iteration, then, punctual events can be interpreted as having duration.

Duration, point-event, inherent end point, and iteration are properties which classify the inherent aspectual content of situations. One case where belonging to one or another category plays a role is in the compatibility with the progressive, as will be seen in chapter 2.

1.2.2 *Aktionsart*: Type of predicates from the point of view of the kinds of situation they denote

The situations in which humans and non humans are involved from the point of view of their temporal development have been classified by aspectual semanticists. In the 19th century scholars became interested in the aspectual distinctions realised by Slavonic languages, and their taxonomies were subsequently applied to many other languages.³ Relevant surveys of this work can be found in Mourelatos (1978), Brinton (1988), Verkuyl (1989), Binnick (1991). Essentially, the two most common typologies are:

³The first known classification, and to a great extent the one on which others are based, dates back to Aristotle (Metaphysics, Book IX).

(i) A tripartite division of verbs in States, Activities and Performances, due to Kenny (1963). Activities are events with duration but lacking inherent endpoint, e.g. to walk. Performances are events with inherent endpoint, e.g. to build a house.

(ii) Vendler (1967) proposed a quatripartite division of verbs in States, Activities, Accomplishments and Achievements. The last two are the result of splitting events with inherent endpoints into two classes according to whether or not the endpoint is preceded by a period of time during which a preparatory part of the event is going on, i.e. whether they have duration. Thus, accomplishments are events with a preparatory phase and inherent endpoint. Events with an inherent endpoint without a preparatory phase are Achievements. Achievements, thus, have no duration.

This typology of situations has become the standard in many works, although Vendler classified verbs, and not predicates. I will use the terms of Vendler's typology applying them to predicates.

As more has been investigated about the relation between the structure of situations (events and states) and the rest of the grammar, other more fine-grained divisions have emerged in later works. Relevant references are Freed (1979), Jackendoff (1987), Moens and Steedman (1988). In Freed (1979), for example, events consist of a pre-event, a nucleus, and a post-event. This facilitates her investigation on the semantics of aspectual verbs in English (*begin, start, finish, stop, etc.*), as each of them focuses on different parts of an event. In Jackendoff (1987), events are organised in a temporal frame whose primitives are points in time P and regions in time R. Points and Regions must alternate. Different kinds of events with different aspectual properties are associated with different combinations of Ps and Rs. The temporal tier is part of the larger system of semantic structure, where three sorts of semantic information: the thematic tier, the

action tier, and the temporal tier are interrelated in the representation of the meaning of a sentence.

Moens and Steedman (1988) take the "nucleus" as their basic entity (their name for event or state). A nucleus is made of a preparatory process, a culmination and possibly a consequent state. The terminology is different from Freed's, but not the concepts. It adds to Vendler's typology the introduction of a "consequent state". This allows Moens and Steedman to distinguish Achievements from Points. Achievements are culminations with a consequent state, Points are culminations without consequent states. To them the distinction is necessary to relate events temporally.

Although the most widely known typologies of *aktionsarten* contain English examples, they are fairly universal, as they are based on universal notions. At least one similar classification exists for Catalan. It is due to Badia i Margarit (1962), based on the work on Spanish by Gili y Gaya (1961). Five groups are proposed:

- a. momentary actions ("acciones momentáneas"): *disparar* 'to shoot', *explotar* 'to explode', *saltar* 'to jump'.
- b. iterated actions ("acciones reiteradas"): *repicar* 'to toll', *caminar* 'to walk', *martellejar* 'to hammer'.
- c. durative actions ("acciones durativas"): *reflexionar* 'to ponder', *odiar* 'to hate', *buscar* 'to look for'.
- d. inchoative (focus on the onset of the situation): *adormir-se* 'to fall asleep', *enrogir* 'to blush', *encaminar-se* 'to set out'; terminative (focus on the end of the situation): *morir* 'to die', *resoldre* 'to solve', *tancar* 'to close'.
- e. perfective action ("acció perfectiva", i.e. action that has come to completion, to its inherent end): *declarar* 'to declare', *començar* 'to begin', *posar* 'to put'.

It is easy to understand, as Badia i Margarit himself points out, that this five-term typology is by no means intended to be consistent or exhaustive, as the class membership criteria (in fact, they are mere definitions) are not discriminating. For example, terminative, inchoative and punctual actions are also perfective. Verbs that express iteration are to some extent durative. Eventually, the true, operating division is one of "perfective" vs. "imperfective" verbal meaning (1962: 413 and 417-425), defined as follows:

"With perfective verbs, if the action does not end, we can not say it has taken place. Imperfective actions have unlimited duration. They need not end for us to say that they have taken place."

This definition of perfectiveness of a verb appeals to the existence of an inherent end point. Perfective verbs include those in (a), (b), (d) and (e). Imperfective verbs lack inherent endpoint. They are those in (c), and (d), if the latter are conceptualised as collectives.

Boundedness is found not only in the temporal domain, but also in other dimensions such as space and matter (see Talmy (1986) and Jackendoff (1990) and (1991)). The parallels between activities and mass nouns, and the parallels between the distinctions mass/count and telic/atelic situations are discussed in Mourelatos (1978), Hoepelman and Rohrer (1980), and Brinton (1991), to name a few. Parallels are even more remarkable in the space dimension, as in many natural languages locative predication is expressed by means of the same linguistic expressions as duration and duration-related notions such as state, permanent situation, progressivity and habituality and location. Mufwene (1984) analyses a large range of data from a variety of languages.

1.3 Verbal Morphology and Aspect

In subsection 1.2.1.2., Aspect was equated with the expression of (un)boundedness of a situation with lexical (thematic) means. Thus it was seen that the existence of an end point depends on the lexical content of the predicate and its arguments in a compositional fashion. Besides the aspectual information conveyed by the lexical nucleus of a sentence (its predicate-argument structure), verbal morphology may express various kinds of perspective over the development of a given event.

Tense morphology may indirectly contribute to sentential aspect. Tense is the "grammaticalised expression of location in time" (Comrie 1985:9). It is a deictic category: it takes the present moment as its reference point to locate situations at either the same time as the present moment (or perhaps including the present moment), or different from it, i.e. prior or subsequent to the present moment. Now, if we locate a bounded event (e.g. an accomplishment) in the past by using the English past tense morpheme, we include its endpoint in the past reference and thus we assert its complete occurrence in the past. To the extent that the simple past confirms the lexical boundedness of the event, it contributes to the aspectual information conveyed in the sentence. Comrie (1985), for instance, considers the English simple past form and the perfect forms --periphrases consisting of *have* and the past participle of the lexical verb, as *Mary has read the book* -- morphological realisations of perfective aspect. This is what happens in (5a), where the accomplishment predicate "conduct a nuclear test" is true for a past period of time.

- (5) a. The French military conducted a nuclear test yesterday.
b. The French were conducting a nuclear test when, suddenly, the main computer crashed.

To express imperfective aspect, i.e. when an event is not considered as a whole, and the speaker is not interested in its complete occurrence, English uses the progressive

periphrasis with a past tense marker, as in sentence (5b). According to Comrie, the progressive periphrasis is the overt marker of imperfective aspect in English.⁴

In Romance languages, and only in the past tense, inclusion and exclusion of the inherent end point of events is marked by distinct inflectional morphemes. The perfective past views an event or state in its totality, as a whole, with no individual phases which make it up.⁵ It is illustrated in (6a). The imperfective past focuses on the internal structure, the development of an event, thus overrides its boundedness. It is illustrated in (6b).

- (6) a. Els militars francesos van fer un assaig nuclear.
 the military french do-perfectivepast-periphrasis a nuclear test.
 'The French military conducted a nuclear test.'
- b. Els militars francesos preparaven un assaig nuclear, quan de sobte el
 Rainbow Warrior va entrar a la zona de proves.
 the military french prepare-imperf.-past a nuclear test, when ...
 'The French military were preparing a nuclear test when, suddenly, the
 Rainbow Warrior entered the test area.'

Scholars have opposing views about the status of the distinction as a grammatical category in the verbal inflectional system. Catalan reference grammars consider the notions perfective-imperfective "properties of tenses" (see, for example, Badia i Margarit 1994). Tense is the major category, with 'perfective' vs. 'imperfective' as a secondary distinction. All past tenses (except for the imperfective past) are considered markers of perfectiveness, whereas non-past tenses are considered markers of imperfectiveness.

⁴Comrie does not take into account the ambiguity of the past tense with states and activities, which may be interpreted either as having ceased in the past, or still true in the present. See discussion in Mittwoch 1988, and Espunya 1994.

⁵Catalan expresses perfective past either through a simple inflectional affix or through a periphrastic construction with forms of *anar* 'to go' (present tense, with the 1st and 2nd person plural formed by analogy with the rest of the paradigm) as the first item followed by the lexical verb in the infinitive form. Variation in the use of one form or the other occurs both dialectally and according to register. (see chapter 7, note 2)

Aspect is subsidiary to Tense in Romance and in English, among many languages. Other languages such as Russian and Arabic, though, have a verbal inflectional paradigm which realises (perfective vs. imperfective) aspect as a primary notion, and Tense as a subsidiary one. In those languages, those verb forms marked for perfective aspect expresses not only the aspectual point of view that the event has reached its end point, but also that the event must be located in the past.

Not all scholars agree that Romance languages express aspect in the past tense. Rojo (1990) on Spanish claims that perfectivity is not different from anteriority, and thus that perfectiveness vs. imperfectiveness should not be considered a valid aspectual distinction.⁶ In this dissertation we will treat the perfectiveness vs. imperfectiveness distinction in Romance as an aspectual one, as it concerns the realisation of the speaker's focus on events vs. focus on periods of time, respectively.

⁶ Rojo organises the tense paradigm of Spanish around the existence of an arbitrary point of reference (based on Reichenbach (1947), to be discussed in the next chapter). Anteriority is a relation that holds between a situation and that reference point. Perfectiveness is thus re-expressed in the terms of the proposed multidimensional paradigm.

Chapter 2

The English Progressive Periphrasis and Progressive Aspect Semantic and Lexical Considerations

2.1 Introduction

To define progressive aspect, linguists have examined the range of meanings expressed by the progressive sequence *be + V -ing*. The surveys in Scheffer (1975), Brinton (1988), and Binnick (1991) include as many definitions as there are uses of the progressive sequence. The latter, for example, lists four views on the meaning of the progressive, namely: durative aspect, action in process or progress, incompleteness of an event, and event in progress as the frame for the occurrence of another event.

What is common to all proposals is the notion that the progressive is the specification of some sort of relation between an event and the time at which it develops, takes place, etc. Although some scholars believe that it is impossible to find one unitary meaning for all the uses of the progressive, e.g. Comrie (1976), linguists and philosophers of language have worked toward this end by analysing what they think is progressive aspect, separating the semantic notion from the usage of particular linguistic realisations within a language. This chapter is intended as an introduction to the most relevant aspects in the semantics of the progressive.

We begin (section 2.2) by examining the contrast in English between the progressive form and the simple form in several contexts. The difference in their readings is based on the progressive's focus on the internal structure of an event, rather than on the occurrence of an event as an indivisible whole (which is the meaning of the simple forms). In particular, progressive aspect focuses on the state that holds when the event is in progress. This notion has been stated in varying degrees of formalisation in the

previous semantics literature, which we survey in section 2.3. Given that the progressive has been and still is a major topic of interest from many semantic perspectives, we have tried to include works from several standpoints, explaining how their goals and theoretical assumptions shaped their analysis of progressive interpretations.

In section 2.4 we present a synthesis of the two main approaches discussed here, interval semantics and event semantics, proposed in Herweg (1991a) and (1991b), where a whole theoretical framework for temporal and aspectual semantics was developed. Herweg's framework provides a means to represent independently both the period of time and the event involved in a progressive relation. Equipped with formal tools for discussion, we revisit the data presented in 2.1 concerning the interpretation of the progressive, especially in the scope of other operators, and show that a progressive interpretation requires finding a temporal referent for the temporal variable. This is done in section 2.5.

Section 2.6 is concerned with the lexical and semantic restrictions imposed by the progressive auxiliary on the kinds of predicates that may follow it.

2.2 The contrast progressive form vs. simple form

Progressive aspect is the grammatical means by which a sentence in a natural language grammar expresses the speaker's attention on the internal temporal structure of an event, in particular on its development, rather than considering it as an indivisible whole. The difference between progressive and non progressive is perhaps best observed in contexts where the progressive sequence *be + V-ing* contrasts minimally with the simple form (or the absence of progressive marking).

One of the most characteristic facts of the English tense and aspect system, especially when contrasted with other languages, for instance, German or the Romance languages, is that English cannot individuate an event and at the same time mark it as actual for some relevant time. Thus, the unmarked interpretations of the English simple present tense forms are generic and habitual readings, whereas in those other languages the simple present morphology expresses present moment readings. In English, the only unmarked realisation of actual events is the progressive form. This is illustrated in (1).

- (1) a. John is taking a shower (now).
 b. John takes a shower (every day).

In (1a) the event is seen as actual, going on at the utterance time, which happens to be the present. The progressive has a present moment reading. In (1b), the simple present marks a habit. In Jespersen's words (Jespersen 1931: 180), "the expanded tenses (...) call the attention more specially to time than the simple tenses, which speak of nothing but the action or state itself."¹ The contrast is even clearer in the past tense.

The simple past of an event expresses the complete occurrence of that event at a past time.² Consider the sentences in (2):

- (2) a. John was taking a shower when the phone rang.
 b. John took a shower when the phone rang.

The connective *when* relates the events in the subordinate clause and the main clause. In (2a) the progressive marks the shower-taking event as going on at some time in the past fixed by the *when* clause. This sentence illustrates what Jespersen considered the

¹The simple present in English has a wide range of meanings (see, for example, Binnick (1991: 247-251)). Two of these, the reportative use and the performative use, illustrated in (ia) and (ib), respectively, relate the actual occurrence of the event to the utterance time. They are, however, marked meanings of the simple present:

- (i) a. Soler shoots, but the ball hits the post and Nadal clears.
 b. I promise I will take you to the football match next Sunday.

²In fact, the statement is true for those situations with inherent culmination (telic situations).

defining function of the progressive: to provide a frame for another event which stands out in the foreground. In (2a), the phone-ringing event occurs in the background of a shower-taking event. In (2b) we can never interpret that the phone rang when John was taking his shower; rather we interpret that when or after the phone rang, John started and completed his shower.

The progressive's focus on a time period (as opposed to "speaking of the action or state itself") affects the interpretation of several linguistic items. In the following paragraphs we contrast the interpretation of simple vs. progressive forms in the scope of modal verbs, opaque contexts, habituals, and the evidential predicate *seem*.

It is a known fact that the interpretation of a modal may vary according to the form of the verb that follows it. In particular, progressive forms in the scope of a modal only receive epistemic interpretations. Consider the following pairs of sentences:

- (3) a. The children can play.
b. The children can be playing.
- (4) a. The children may play.
b. The children may be playing.
- (5) a. The children must play.
b. The children must be playing.
- (6) a. The children could play.
b. The children could be playing.

The (b) sentences, where the modal is followed by a progressive form, are interpreted epistemically, that is, they express a judgement about the truth of the proposition expressed by 'the children are playing'. The (a) sentences, where the modal is followed by the lexical verb denoting an event, non-epistemic readings such as permission, obligation, ability, and volition obtain according to the meaning of the modal. Root

readings do not obtain when the following verb occurs as part of a progressive periphrasis. This meaning contrast is illustrated with *can* in (7). The range of interpretations, both possible and impossible, is provided underneath the example sentence.

(7) a. The children can play.

The children are allowed to play. **permission**

The children are able to play. **ability**

* There is a possibility that children are playing now. **epistemic**

b. The children can be playing.

* The children are allowed to be playing now. **permission**

* The children are able to be playing now. **ability**

There is a possibility that the children are playing now. **epistemic**

Epistemic judgements (possibility and necessity) are always relative to a given time. Informally the progressive "is about" a period of time, and that is its contribution as the complement of a modal: a period of time at which an event is in progress. The simple form, in contrast, contributes its lexical meaning --an event or state-- devoid of any reference to the period of time during which that event or state occur.

A similar effect of the progressive is found in verbs of opaque contexts (*find, want, seek, need, look for, etc.*). The progressive induces a referential reading of the object, whereas the simple form induces a quantified reading.

(8) a. I am looking for a secretary who speaks Italian.

b. I am looking for a secretary who is hiding some files from me.

In (8a) the indefinite 'a secretary' can be interpreted either as denoting a specific individual who speaks Italian or as a non-specific individual. In the former reading the

existential operator seems not to be affected by the opaque predicate, while in the latter the existential operator seems to be affected by the opaque predicate. In contrast, (8b) allows only the first reading, i.e. the progressive disambiguates the interpretation of the indefinite. There exists a time at which someone is hiding files, and this is expressed by the progressive. If the time exists and the event is going on at that time, then the participants in the event are specific participants. Thus the referential reading obtains.

The notion that an event is in progress at a given period of time is compatible with the notion of habituality: there are multiple instances of events in progress. Consider the following examples in (9), borrowed from Jespersen (1931). The sentences consist of a matrix clause plus a subordinate clause. Each clause contains an event predicate.

- (9) a. I am writing every morning at the time when he usually comes.
 b. Whenever I looked up he was looking.

(9a) can be paraphrased as "an event of writing is going on each time that one person comes", i.e. "Whenever the person comes, somebody is writing". Thus in the matrix clause an event is predicated to be ongoing, providing a temporal background, a "time frame" in Jespersen's words, for the occurrence of the event denoted in the *when*-clause. (9b) says that whenever an event of looking up took place, an event of looking was going on involving another person.

The progressive form may occur in both the matrix or the subordinate clause. In this case the habits are coextensive, in Jespersen's words. Note the following examples:

- (10) a. When children are doing nothing, they are doing mischief.
 b. He could not be idle. If he was not working, he was walking.

The overt marker of past habituality in English, the modal *used to*, can also be followed by a verb in the progressive form. See (11).

- (11) a. John used to write a letter.
 b. John used to be writing a letter.

(11a) is interpreted as denoting a situation consisting of letter-writing events, with no reference to the particular occurrence of these events, leaving aside the past tense. (11b) also denotes a situation consisting of letter-writing events. It denotes the existence of particular times when the events took place. It is difficult to interpret it as it stands, for it emphasizes the development of the events, which is unexpected if what we intend is to express an action as habitual. Another event is required so that the old one can serve as frame for the new one.

Apart from modal and habitual contexts, meaning contrasts between the bare (simple) form and the progressive form of a verb are found when it occurs as the complement of the evidential predicate *seem*. The contrast is illustrated by the sentences in (12)-(13):

- (12) a. John seems to be writing a letter now.
 b. * John seems to write her a letter now.
 c. John seems to write her a letter every day.
- (13) a. It seems that John is writing a letter now.
 b. * It seems that John writes a letter now.
 c. It seems that John writes her a letter every day.

These sentences express situations as evident. Events which are going on must occur in the progressive, as in (12a) and (13a), compared to the (b) examples, where the presence of *now* forces a present moment interpretation that proves incompatible with the bare form. The bare form must receive a generic interpretation, as shown by the grammaticality of the (c) examples, where the temporal adjunct is the frequency adjunct *every day*. A generic interpretation excludes an interpretation in which there is evidence that the writing event takes place at an actual time. These requirements of *seem* hold in

both constructions, the subject raising type in (12) as well as the impersonal construction in (13).

We have illustrated what is meant by 'focus on time' and how that is manifested in the interpretation of several linguistic items. The notion is present in all definitions of the progressive in the semantics literature, which we survey in the following section.

2.3 A survey of the literature on the semantics of the progressive aspect

Accounts of the progressive are usually part of theories of how time is expressed in the grammar, and this includes tense as well as aspect. Although the semantics and syntax of Tense is not in the immediate scope of this thesis, the following sections will often require the presentation of the scholars' theories of tense as necessary background to understand their views on the progressive.

2.3.1 The relational view: Jespersen (1931) and Reichenbach (1947)

Jespersen (1931:179) considered that the most important element in the meaning of the expanded tenses (the progressive form) was incompleteness of an event at the time mentioned or implied in the sentence. This was an innovation with respect to the accepted view at the time, which held that the expanded tenses indicated duration. But where Jespersen was most influential and innovating was in his approach to tense, or rather, tenses, the particular realisations of temporal relations in the grammars of languages. According to him, utterances express the time points that serve as reference for the temporal interpretation of events independently or related to other events and situations. This relational view was adopted and developed by Reichenbach, who included the progressive in his theory.

Reichenbach constructed a theory of tense which holds that in order to evaluate the denotations of sentences in the dimension of time, three time points are necessary. Reichenbach called them R (the reference point), S (the speech time) and E (the event time). The various tenses, or grammatically realised time relations, are characterised as relations between R, S, and E. Reichenbach defined two binary relations: precedence and identity. Precedence is represented by the sign "_", identity is represented by a comma. An example will be useful at this point.

Consider the simple past tense in English. This tense corresponds to the configuration "R, E _ S" because the event took place in the past with respect to the time of speech.³ The reference taken is also a past time. In contrast, the present perfect corresponds to the configuration "E_R,S" because at the speech time, the event is seen as having taken place in the past, though the time taken for reference is the present.

In order to account for the progressive, Reichenbach postulated a distinction between "points" and "intervals". Whereas the event time of the simple past is a point, the event time of the "extended tenses" is an interval, a period of time (p. 290). The progressive periphrasis of English is an extended tense, and so is, as he explicitly stated in a footnote, the *imparfait* in French --and thus, as we assume, in Romance languages as a whole.⁴

Obviously, the statement that E is no longer a point but a bounded stretch of time on the time line leaves several semantic and syntactic questions unanswered. In particular, Reichenbach's theory does not explain why the extended interval is understood as precisely the time period within the development of an event, and not only the beginning;

³Quotation marks are mine, to isolate the representation

⁴I believe that we can safely make the assumption that the imperfective past of Romance languages has in essence the same aspectual value as the *imparfait*, in spite of the variation that may exist in the usage of such a tense form. In the case of the perfect tenses, it is unclear that such an assumption is correct.

or why the progressive is the marker for actual events. Also unexplained is the prohibition against state-denoting predicates in the progressive, and the fact that states like those denoted by the predicates "love someone" or "know two languages" also occupy extended periods of time, rather than points.

This theory, widely accepted among linguists, obviously was calling for an extension to improve the semantics of the progressive. Besides precedence and identity, a new relation was proposed between reichenbachian time points, namely inclusion. In the English progressive form, the Reference time is included in the Event time. The simple present, which lacks an actual reading, is an instance of R including E. Recently reichenbachian approaches have been adopted in research on the syntactic determination of tense, to be reviewed in chapter 5.

The primitives of Reichenbach's theory are periods of time (either points or extended intervals), and as such his approach is an interval-based semantics of tense. This was also the path taken by the semanticists working within logical or formal semantics.

2.3.2 Progressive aspect in propositional logic

In order to expand the coverage of Montague semantics, a model-theoretical compositional semantics of natural language (Montague 1960, 1970a, 1970b, reprinted in Thomason 1974), an analysis of the progressive was proposed by Dowty (1977, 1979). In Montague semantics, some grammatical phenomena beyond the predicate-argument relation were treated as semantic operators which applied to propositions to form new propositions. Among these there was tense, and modal notions such as necessity. The progressive was given a parallel treatment. It was defined as a semantic operator which selects an interval complying with certain conditions:

PROG (A) is true in M at (i, w) iff there is an interval j such that i is a proper subset of j and i is not a final subinterval for j , and there is a world w' for which A is true at (j, w') and w is exactly like w' at all times preceding and including i . [Dowty 1979:146]

The definition says that given a predicate A denoting an event, a model M, a world w , and an interval i , the application of an operator PROG to the predicate A in M at (i, w) can be true only if there is another world in which A is true for a larger interval j , and i is a subset of the interval j for which A is true. The remaining condition is that w and w' cannot differ up to the point where i ends. Informally summarised, the progressive of a predicate is true if the event culminates, i.e. takes place, in another possible world. This is called the branching future model because from the end of the interval i there are many possible time-world pairs. In some of these the event denoted by A reaches its endpoint successfully, in others it is interrupted, so that A is never true.

Since Dowty (1979) several works have concentrated on refining this approach (see Mittwoch 1988, Landman 1992), especially trying to solve the difficulties inherent in the branching future approach to the progressive, which are a consequence of the possible worlds semantics. Dowty's treatment of the English progressive as an operator has been adopted for the progressive realisations in other languages (see Ballweg 1981 for German).

An alternative to Dowty's interval-based treatment of the progressive is Vlach (1981). There Dowty's "topological" definition is revised and for the first time a definition of the progressive is formulated in terms not so much of the relation between two intervals i and j , but in terms of the relation between A and i (keeping the symbols in Dowty's definition), that is, between the event and a period of time in its development. In Vlach (1981) the progressive is the application of a stativising operator, STAT, to the development of an event. It is better to meet his definition in two steps. In the first step,

the development of an event is viewed as a process. An operator Proc (for Process) is defined in the following way:

"If f is a sentence of the form NP VP, Proc [f] denotes the process of NP's VP-ing".

In the second step, the progressive is defined as the application of a stativiser operator on the result of the application of the Process operator on an event, as follows:

"Prog [f] if and only if Stat [Proc [f] goes on]"

To my knowledge, Vlach (1981) is the first reference where the progressive is defined as a stativising operator, i.e one that applies to an event and turns it into a state.

Interval-based temporal semantics considers time intervals as the primitives, the basic entities in the theory. Relations defined between time intervals are grammaticalised as the different members of the tense and aspect classes. The fact that no status is given to events as primitive entities leaves interval semantics unable to deal with evidence that natural language allows us to make reference to them as individuals. Davidson (1967), a seminal paper for the discipline of event-based semantics, illustrates how language individuates events and suggests an account of this fact in propositional logic. By way of example, Davidson notes that the pronoun *it* in English stands for an event in the sentence *Jones did it with a knife*. In his essay *it* means 'butter a toast'. Davidson's formal proposal was to postulate that verbs denoting events should contain in their argument structure a place for an event argument.⁵

⁵For instance, the sentence *Jones buttered a toast with a knife* would have the following logical form (disregarding tense):

$\exists x$ (buttered, a toast, Jones, x)

The notion of an event place-holder in event predicates is due to Reichenbach (1947). Davidson improved on it, giving it its full theoretical value.

Tense and aspect are viewed as the means in natural language to locate events relative to one another along the time line, given that people live in the dimension of space and time. As far as the progressive aspect is concerned, the stativising nature of the progressive form is accepted. Parsons (1990:171) defined the progressive in these terms:

"Semantically, changing an event verb to the progressive form requires that it be treated as a state verb; the sentence in question thus requires for its truth that the event in question hold, not that it culminate."

Events may be conceptualised as complex units with their own internal structure. Linguists have proposed different parts for events. In the introduction we presented several ways to conceptualise the internal structure of an event (section 1.2.2). The progressive is considered a function that selects a subevent of an event. According to Freed (1979) the progressive *be* --not included among the lexical aspectualisers like *begin*, *stop*, etc. due to semantic as well as syntactic factors-- selects the **nucleus** of the event. In Moens and Steedman (1988) the progressive auxiliary is viewed as a function which requires its input to denote a process and has as a result a progressive state, which describes the process as ongoing at the reference time.

The differences between the interval-based and the event-based approaches, as well as their advantages and shortcomings with respect to the phenomena of natural language they have to explain are discussed at length in an article by Herweg (1991a). The outcome of his article is a proposal for a theory of tense and aspect that takes both intervals of time and events as the basic conceptual primitives.

2.4 Periods of Time and Events, Basic Conceptual Entities

The theory of aspect and tense outlined in Herweg (1991a,b) has two primitive entities: events and periods of time. Events are individuals which belong to particular event-types

and have a definite time of occurrence. Periods of time may have homogeneous properties, called States. In other words, if a state holds over some period of time it also holds at each part of this period. In fact there are two versions of the same property. One is called subinterval property or divisibility (if a state holds over a period X, it also holds over smaller subperiods Y of X). The other point of view is the reverse, i.e. additivity (if a state holds for a period X and for a period Y, then the state holds for the period X+Y). This means that the relation between a state and the times over which it holds is indefinite. Events, on the other hand, possess a definite time of occurrence.

States and events are defined as follows by Herweg (1991a: 393):

I (states) $\lambda t (S (t))$

II (events) $\lambda e (E (e))$

Part I of the definition says that a state-predicate S is the property of times t, whereas part II states that an event-type E is a predicate about individual events e.

There are ways of converting states into events and events into states:

a. To convert a state into an event, we need to consider phases of the state. The phase of a state is a maximum period at which the state holds. With the application of the phase operator PO occurrences of phases become an event-type that Herweg calls pofective event type (Herweg 1991a: 393): "For a given state S, the set $\lambda e (PO (S) (e))$ is the type of events which are occurrences of phases, i.e. the maximum quantities of that state."

b. To convert an event into a state, we establish a relation PROG between an event and its progressive state, that is, the set of times t which are temporally included in $\tau (e)$, the time of the event: $PROG (e, t) = \text{def } t \text{ subset of } \tau (e)$. Thus for a given event e there is a progressive state $\lambda t (PROG (e, t))$ (Herweg 1991a: 394). The relation PROG is part of

the operator [Prog] which applies to event-type predicates to transform them into progressive-state predicates and which is defined as follows:

Let E be a variable ranging over event-type predicates.

$$\lambda E \lambda t \exists e (E(e) \text{ and } \text{PROG}(e, t))$$

The formula reads 'for all event types E and for all times t there exists an event e such that e is of type E and e and t stand in a progressive relation'.

By functional application the operator [Prog] maps an event-type predicate onto the progressive-state predicate. For a given event-type $\lambda e (E(e))$, the state that holds when an event of that type is in the process of occurring is

$$\lambda t \exists e (E(e) \text{ and } \text{PROG}(e, t))$$

For example, given an event-type predicate "Peter ride his bike to the seaside"

$$(\lambda e' (\text{Peter-ride-his-bike-to-the-seaside}(e'))$$

we obtain by functional application:

$$\lambda t \exists e (\text{Peter-ride-his-bike-to-the-seaside}(e) \text{ and } \text{PROG}(e, t))$$

The formula reads as 'for any time t there exists an event e such that e is of type Peter-ride-his-bike-to-the-seaside and e and t stand in a progressive relation'

Herweg stresses the importance of two points in the definition. First of all, the imperfective character of the progressive is reflected in the representation of the progressive form of a predicate as a homogeneous predicate about a period of time ($\text{PROG}(e, t)$). Secondly, the event-type predicate appears with an event variable which is bound existentially. The definition of the progressive operator inherently binds the event variable. This is necessary since the progressive state is built from an event whose existence must be presupposed.

A major problem with Herweg's account is its simplification of the ontology of situations. He considers only two classes of situations, states and events, which do not

correspond exactly to the states and events of the Kenny (1963) or Vendler (1967) typologies presented in section 1.2.2 (chapter 1). As stated clearly in the first paragraph of Herweg (1991a), 'state' is a term for any situation that lacks temporal limits. This includes "states of no change" (states in Kenny and Vendler's typologies), and "states of change" (activities in Vendler's typology), i.e. situations that happen, involve change, etc. The term 'event' refers to situations with inherent temporal limits, i.e. bounded situations. Events include both accomplishments and achievements.

The definition of the progressive operator provided by Herweg states that it applies on event predicates. This should mean that activities do not qualify as proper predicates on which the progressive can apply because in his terminology they are states. We obviously find this to be a problem because the progressive does indeed apply to activities, as illustrated in (14).

- (14) a. John is jogging in the park.
b. Martha is talking to his mother on the phone.
c. It is raining.

It is obvious that the progressive cannot be part of a theory of aspect in a general sense merely as an "unbounding operator". It is an unbounding operator (see also Tenny 1987 and Jackendoff 1990), but it is more than that. Herweg never provides examples of the formal representation of an activity (process) in the progressive. There is a suggestion that there may be instances of unbounded situations that occur in the progressive. In such cases, the application of the phase operator is required to turn them into bounded situations. Only after they are "events" (i.e. bounded situations) can the progressive apply. Following these instructions, the formal representation of the progressive of an activity predicate like "John jog in the park" is the following:

1. JOHN-JOG-IN-THE-PARK

2. λt (JOHN-JOG-IN-THE-PARK (t))
3. λe (PO (JOHN-JOG-IN-THE-PARK) (e))
4. $\lambda t \exists e$ (PO (JOHN-JOG-IN-THE-PARK) (e) and PROG (e,t))

The path from step 1 to step 4 is the following. The predicate in (1.) is conceptualised as a state. A state is a property of a period of time and is written as in (2.) If we apply the Phase Operator whose definition is provided in this section, we obtain a new event-type (3.), the event-type of those events that are phases, chunks, pieces of the state defined in (2.). In (4.) an event e of the new event-type stands in a progressive relation with a period of time t , according to the formula of the progressive operator.

The application of the Phase Operator is in fact a bounding or delimiting operation in which an unbounded entity, a state, becomes bounded. This operation is motivated for other linguistic elements, besides the progressive, which require the same kind of mapping, such as count adverbials, or when temporal conjunctions such as *after* are combined with unbounded situations (1991a:995). Justification for this treatment of the progressive of activities is that many activity verbs have related count nouns. Thus we have 'a swim' in 'go for a swim', 'a talk' in 'have a talk with somebody', etc. Other nouns are 'a laugh', 'a jog', 'a run'. This means that it is possible to conceive an activity as an event which can be counted. If this is so, then it is not truly indefinite, since what we count is a "chunk" of it, something with a beginning and an end, which may constitute a prototype of an activity.⁶

⁶Higginbotham (1994) views the progressive of an activity as the simplest progressive case: the progressive state of a process (activity) is the process itself. Following this suggestion, the alternative formulation of the progressive in Herweg's framework should be made in less strict, so that it can apply to activities. First of all it is necessary to distinguish between states that involve change (activities) and states that do not involve change (states in the Kenny-Vendler sense). A state of change is a property of a period of time, written λt (Sch (t)). Parallel to the relation PROG for events, we define the relation PROG holding between states of change and periods of time t' :

$$\text{PROG} (Sch (t'), t') = \text{def } Sch (t')$$

PROG for a state of change is the identity relation of Sch .

The progressive of activities is a problematic issue for other approaches as well. Parsons (1990:184) postulates that an activity (a process) is "a series or amalgam of events. A walking process is a bunch of overlapping walking events, small ones, large ones, and so on." According to this view, when we talk about an activity, we usually have in mind a "maximal" event of this kind. The progressive is true for the event if it is true for some proper subevents of it. Thus, what is at the root of the "problem" of the progressive of activities is not so much an insufficiently developed theory of the progressive, but rather the lack of a clear notion of what is an activity.⁷

What makes Herweg's definition of the progressive worth taking into account is that it has a place for an event variable and a place for a time variable. As far as the event variable is concerned, Herweg's definition of the progressive operator introduced it as a variable bound existentially. This rightly characterises the fact that the progressive always denotes the existence of an event. The time variable is not bound existentially, which means that it may be bound in different ways. Now, as we saw in section 2.2 the progressive form may occur in the scope of irrealis semantic operators such as modals, an abstract or adjunct-bound habitual operator, the habitual construction with *used to*, etc. Herweg's finely-drawn distinction between an event and a period of time provides the mechanism to explain the interpretation of the progressive in constructions such as

⁷Brinton (1991) postulates the existence of two types of activities: continuous activities, and iterative activities. The former go on "in a relatively continuous, even, and homogeneous way". Iterative activities, on the contrary, go on in an uneven, intermittent and unhomogeneous way". In English, some iterative activities can be nominalised by two different deverbalized nouns corresponding respectively to the mass and single count readings, which we illustrate in the following columns:

activity	mass-nominalization	single count nominalization
to laugh	laughter	a laugh
to giggle	giggling	a giggle
to breathe	breathing	a breath

The problem is that, except for a few cases such as the iterative activities clearly composed of punctual subevents, the division between continuous and iterative activities "cannot be strictly insisted upon" (p. 54), "since an activity such as "walking" might equally well be conceptualised as continuous or iterative (as a series of separate steps)". The conclusion reached by Brinton is that degree of homogeneity is not lexically fixed and unique for each lexical item, but a matter of focus. See references in Brinton (1991).

those in section 2.2. in terms of the binding possibilities of variables. This is approached in the following section.

2.5 The progressive operator, and the event and time variables

2.5.1 The progressive and epistemic readings of modals

In section 2.2 we presented a series of pairs of English sentences with modals. The form of the complement -- bare simple form vs. bare progressive periphrasis *be + V -ing-* seemed to affect the type of modality expressed. In particular, the progressive was interpreted epistemically. This, along with another effect of interpretation concerning the modal *may*, will be explained in this section. Consider the following examples:

- (15) a. John may write a letter.
- i. John is allowed to write a letter.
 - ii. *Right now there is a possibility that John is engaged in letter-writing now.
 - iii. Right now there is a possibility that John will write a letter in a future time.
- b. John may be writing a letter.
- i. * John is allowed to write a letter.
 - ii. Right now there is a possibility that John is engaged in letter-writing now.
 - iii. Right now there is a possibility that John will be engaged in letter writing in a future time.

The modal *may* expresses permission and epistemic modality if the lexical verb denotes an event and occurs in the bare form (example (15a)). The epistemic reading has future temporal reference. If the complement occurs in the progressive (example (15b)), epistemic modality is the only possible reading; specifically an epistemic judgement about the present, or about the future. Adjuncts of temporal reference disambiguate:

-
- (16) a. The children may be playing now.
b. The children may be playing tomorrow.

An epistemic judgement about an actual event is only possible in the progressive. This means that there is a difference between the progressive and the bare form responsible for the exclusion of the bare form from statements about the present moment. What makes the two interpretations possible?

Epistemic present moment readings are explained if the modal *may* binds the time variable of the progressive. Given that the time variable is indefinite (states are properties of indefinite periods of time), both the present moment or the future shift readings are available.

The bare form individuates an event, and has no time variable to bind. In this case, the epistemic judgement involves the time of the whole event. This presumably is only possible if the event has not started yet, thus inducing the future shift reading. The reading that combines present moment reference and individuation of an event is permission.

There is evidence from another area of grammar that modals bind variables in their scope. I am referring to the nominal indefinites in Heim (1982)'s analysis. It seems to be a general property of modals that they close existentially variables occurring inside their scope. Heim is concerned with individual variables corresponding to indefinite NPs under the scope of modals. She proposes to consider the following sentences in which anaphoric relations between indefinite NPs and pronouns are impossible:

- (17) a. Bill can make a kite_j. It*_j has a long string.
b. John wants to catch a fish_j. Can you see it*_j from here?

The explanation is that *can* and *want* are operators which trigger Existential Closure inside their nuclear scopes. The indefinites are bound within the sentence and are "inaccessible to binding by the text-scope existential quantifier" (Heim 1982: 257).

2.5.2 The Progressive in habitual/generic contexts

2.5.2.1 The concepts habitual/generic

As we saw in section 2.1, the progressive occurs in sentences with habitual interpretations. In the course of this dissertation I have not yet defined the concept 'habitual situation'. Comrie (1976: 27-28) says that habituais "describe a situation which is characteristic of an extended period of time, so extended in fact, that the situation referred to is viewed not as an incidental property of the moment but, precisely, as a characteristic feature of the whole period." Comrie's definition emphasises the modal component of habits: a situation is conceived of as "characteristic". However, it is vague as far as the structure of habits is concerned. The crucial component of habitual meaning is plurality of occurrences of events. Talmy (1986), and also Brinton (1991), establish a parallel between collective nouns and habits. Habits are instances of the same event taken collectively.

There are many factors which contribute to the expression of plurality of situations, or, in terms of formal semantics, to quantification over events and states. In de Swart's (1991) dissertation, frequency and iteration adverbs are analysed as Q-adverbs (quantifiers): *always*, *not always*, *never*, *sometimes*, *twice*, *mostly*, *often*, *seldom*. These adverbs require predicates which fulfill the condition that de Swart calls "plurality condition on quantification": "A Q-adverb does not quantify over a set of cases if it is known that this set has a cardinality less than two." (p. 118)

Other overt markers of plurality are the conjunction *whenever*, indefinite NPs in certain contexts, and the generic present tense (suggested by Schubert and Pelletier (1989, cited

in de Swart)). Apart from overt markers of quantification over events, semanticists have proposed the existence of an abstract generic operator in generic sentences. Like in generic readings, in habitual readings the proposition denoted by the sentence holds for a plurality of periods of time. For this reason I will use the pair of terms 'habitual-generic' to refer to situations that are characterised by the plurality of occurrences of events or plurality of period of times for which states hold. Some authors, however, prefer to keep the term 'habit' for tendencies of individuals, and 'generic' for propositions that hold universally, i.e. genericity is devoid from the modal component of human tendencies (de Swart 1991, for instance, excludes adverbs like *normally* from her list of quantifiers over situations).

2.5.2.2 The progressive in the scope of habitual/generic quantifiers

De Swart hypothesizes that quantification over the temporal variable is involved in the interpretation of generic progressive statements. The hypothesis accounts for the contrast between "episodic generics" and "non-episodic generics". Consider the following sentences:

(18) Usually, when a cat is eating, it is happy. [de Swart 1991: 75 (107)]

(19) When a cat has blue eyes, it is usually intelligent. [de Swart 1991: 76 (108)]

(18) is called an "episodic generic", i.e. a generic statement about an event. Notice that the *when*-clause (here marker of plurality) contains a predicate in the progressive *a cat is eating*. (19) is a "non-episodic generic", a generic statement about a state (marked by *when* and the indefiniteness of *a cat*).⁸ In order to explain their distinct interpretations, de Swart proposed quantification over times or intervals, following a suggestion by

⁸As de Swart shows, state predicates can only be quantified when they have an argument which is an indefinite NP. What is bound by the quantifier is the individual variable introduced by the indefinite, giving a generic and atemporal reading. This is illustrated in (i):

- (i) a. Un chat a toujours les yeux verts.
b. When a cat has blue eyes, it is usually intelligent.

If the NP is referential, quantification is impossible, as my example illustrates:

- (ii) a. *When Socks has blue eyes, it is usually intelligent.

Schubert and Pelletier (1989). Episodic generics like (18) always involve quantification over times, and may also involve quantification over individuals. Non-episodic generics like (19) involve a different type of quantification, quantification over individuals, not over time periods. Because states hold for an indefinite period of time, generic statements about states can only concern the individuals of which the state is predicated. Thus, no quantification over the time variable occurs.

In a model where the two kinds of variables are available, an event variable and a time variable, habitual progressive sentences may be accounted for in the following way. The event variable is bound by the existential quantifier inherent in the meaning of the progressive, according to the definition of the progressive operator presented in section 2.4. The habitual/generic operator, which may be abstract, or overtly realised by the adverbial *always*, binds the time variable.

In habitual non-progressive sentences, it may be assumed that habitual-generic quantifiers bind events. One of the adverbials which more clearly illustrates the differences in meaning that arise from binding different variables is *always*.

2.5.2.3 *Always* and the progressive

Always, considered a quantifier over events, produces a very interesting contrast in sentences with simple vs. progressive forms. Consider the sentences in (20):

- (20) a. She always dreams of running water.
= 'Whenever she dreams, it is of running water.'
- b. She is always dreaming of running water.
= 'She is always occupied with dreaming of running water.'

Both seem to denote habitual/generic situations. (20a) says that for each event of dreaming, the object of the dream is running water. (20b) says that dreaming is the only

type of event that takes place during the time specified by *always*. Another example can be seen below:

- (21) a. When she goes to Paris, she always reads *Le Temps*.
 = 'Whenever she goes to Paris, all paper-reading events are of the same kind:
 reading *Le Temps*
- b. When she goes to Paris, she is always reading *Le Temps*.
 = 'Whenever she goes to Paris, all events are *Le-Temps*-reading events'.

With the simple present tense, *always* binds the event denoted by the predicate, not the total time involved. It is a universal quantifier over events.⁹ When *always* occurs in a progressive sentence, as in (20b) and (21b), the event variable is bound existentially. *Always* quantifies over the event time in the sentence.¹⁰ Note the oddity of binding the times in a progressive sentence universally because, as the progressive turns an event into a state, there is only one period of time. This is precisely the reason why *always* adds the overtone of exaggeration or nuisance noted by many authors (Jespersen 1931, Leech 1971), typically "represented" by the sentences in (22a) and (23a):

- (22) a. The baby is always crying.
 b. The baby always cries.
- (23) a. You're always saying the wrong things.
 b. You always say the wrong things.

So far we have seen different operators that bind the time variable of the progressive. The last question to be asked is how this time variable is interpreted when there is no operator.

⁹In this case, as in (20a) and (21a), the representation is:
 Always_e (dream (e) ---> dream-of-running-water (e))

¹⁰The logical representation is: Always_t ∃ e (dream-of-running-water (e) and PROG (e,t))

2.5.3 Binding/anchoring through the context

Mittwoch (1988:228) argues that "the interval picked out by the progressive is anchored contextually." One of the contextual elements proposed is the reference time specified by the previous sentence. Her example is:

(24) The telephone rang at midnight. I was still working.

The time variable is anchored by the reference time established or updated (if the two sentences are part of a larger text) by the event time of the previous sentence. What if the sentence does not occur in a broader context? She suggests that the time variable is anchored by the speech time of the sentence, i.e., a sort of existential binding. Thus, in "I am working", the time variable of the progressive is coindexed with the speech time (the present moment) and the sentence receives a present moment interpretation. In other words, Mittwoch seems to suggest a default binding: in the absence of any overt or covert operators that might bind the time variable, existential closure applies by default, i.e. "there exists a time at which an event is going on", assigning a temporal interpretation to the variable. In "I am working", the time variable is coindexed with the speech time marked by the present tense "am" and the only available temporal referent.

2.5.4 Other 'modal uses' of the progressive form in English

The English progressive form has other uses besides the purely aspectual, e.g. to express modal and temporal notions. This is not a language particular fact of English, since in many unrelated languages the forms that mark imperfective aspect (i.e. those which fail to individuate an event, which focus on a period of time of which they predicate properties such as progressive state and habitual state), are used to express politeness in requests, futurate tenses, etc. (Johnson 1981). For a discussion of the values taken by the Romance imperfective past, see chapter 7, section 7.5.

The **futurate** tenses (present and past) are possible temporal and modal readings of the English progressive form. Consider the sentences in (25), for which we offer the Catalan translation.

- (25) a. Dennis is buying me a new coat for my birthday next week. (present)
 En Dennis em compra un abric nou pel meu aniversari.
- b. The beauty contest was taking place on the next day. (past)
 El concurs de bellesa tenia lloc l'endemà/el dia següent.

The futurate (25a) is a present tense progressive form which denotes the progressive state of an event which --world knowledge tells us-- has not actually started. The period of time of which the property is predicated and the time of the event are not coterminous. Similarly, the futurate in the past (25b) expresses the progressive state as holding in the past but with future temporal reference.

In the literature, explanations depend on the particular view on progressive aspect, but they all share the idea that the futurate reading is due to the mismatch between the period of time of which the progressive is predicated (which is the reference time) and the time of the event. Two different accounts of this mismatch are given in Johnson (1981) and Moens and Steedman (1988).

Johnson (1981) holds a reichenbachian view on imperfective/progressive aspect. Given E = event time, and R = reference time :

For some time t in E , $R (<) \{t\}$

The definition states that some portion $\{t\}$ of E must be later (she uses the symbol ' $<$ ') than R . The futurate reading arises when the whole event time is later than R . According to Johnson, "we simply have the special case in which the indeterminate future of R is in fact the whole event". Because this relation is expressed by the progressive, from the

perspective of R there is a stronger certainty that the event will take place at time E. This explains the readings of planning and intention associated with the futurate.

Moens and Steedman (1988: 24) view the difference in interpretation between the progressive and the futurate as two ways of conceptualising the event. For them an event is a unit (a "nucleus") which may have various parts: a preparatory process, a culmination, and a consequent state after the culmination. The progressive decomposes the event by focusing on its preparatory process, thus indicating that it is in progress at the time of reference. The futurate progressive does not decompose the event; instead, it constructs a new nucleus whose culmination is the former event. With respect to (25), the former event is 'Dennis buy a coat' and the new event includes the preparation leading to the buying event. The futurate progressive is a progressive reading that indicates that the preparatory process of the new event is in progress. The preparatory process includes the intention or planning that may precede the beginning of an event.

From either perspective we see that there is a reinterpretation of the progressive due to two factors: one is that while the tense morphology marks present (or past), co-occurring temporal referential adjuncts express future reference; and two, world knowledge tells us that the time of the event E is subsequent to the reference time or the period of time of which we want to predicate the progressive state of the event.

The progressive may be used to make **polite** remarks or to weaken the strength of an assertion, without involving temporal mismatches such as those characteristic of the futurate. The lack of individuation of an event may explain the use of the progressive instead of the simple form, especially in the past tense, to make **polite requests** such as the one in (26).

(26) I was (/am) thinking that you could send me a copy of your paper.

In the past progressive, we have a statement that a state concerning the speaker was in progress in the past and may be in progress at the time of the utterance (since the past of a state does not entail that the state ceased to hold in the past). The implication is that the utterance is about the present, and the hearer may infer that it concerns him or her. In the present tense the progressive does not individuate the event, and thus there is less force in the assertion.

The progressive is used also to make **polite offers**, i.e. offers that are left open to refusal. *Will* associates future with certainty. If the event occurs in the progressive, *will* expresses the certainty that the progressive state will hold in the future, i.e. that the realisation of the event does not depend on the hearer. For instance, if I know that the hearer needs a ride to Madrid, and I wish to offer him one, I may make the statement in (27):

(27) I'll be driving to Madrid next week.

The utterance states that a state will hold at a future time, it is not a declaration of intentions on the part of the speaker; this leaves it open for the hearer to say that he'll take the plane.

Another polite use is in situations of communication in which a progressive state of a verb of telling suggests that the information was not completely conveyed, thus leaving the way open for continuation of a story. This is illustrated in (28):

(28) S1: Did you hear about Bob?

S2: Yes, Louise was telling me about it.

Speaker 2 means "Louise did not finish telling me about Bob, so if you would like to go on and tell me what you know, I'd be glad to hear it."

2.5.5 Recapitulation

The progressive relates events and periods of time. The expression of this relation varies from formalism to formalism. Herweg's framework (1991a, 1991b) postulates a distinction between periods of time and events as separate entities. His formalism includes separate variables for these entities: an event variable, a time variable, and also an event-type variable. The formal distinction between periods of time and events allows us to account for the interpretation of the progressive in the structures presented in 2.2. in terms of different variable-binding possibilities.

By definition, the event variable is bound existentially within the PROG operator. This is part of the meaning of the progressive, which denotes the state that holds when a particular event is in progress. The time variable may be bound by modals such as *can*, or by habitual/generic operators. Binding by modal operators prompts an existential reading of the time period; habitual operators quantify over the time variable, marking plurality of time periods. The time variable may be closed existentially by tense markers. In all cases, however, the way the progressive operator is set up relates the two variables and ensures that for any period of time t an event is predicated and is therefore in progress.

The semantic features of the progressive operator are reflected in the lexical specifications imposed by the progressive on the predicates to which it applies. These are the subject of the next section.

2.6 Lexical specifications of the progressive periphrasis in English

Progressive aspect is the grammatical realisation of a certain relation between an event and a period of time. As established in the definitions in section 2.4, the progressive operator PROG denotes a state, that which holds when an event is in progress.

Following the presentation of Herweg's proposal, I discussed the need to include activities among the predicates to which PROG applies. At that point other questions concerning the progressive and its choice of predicate types were not raised. This section will address them, as it is necessary for us to know what lexical restrictions accompany the application of the progressive operator, and how they are encoded both semantically and syntactically.

2.6.1 Progressive and states

The most characteristic lexical restriction of the progressive is that it does not apply to predicates denoting states in the traditional sense (see definition in 1.2.1.3). In fact, the progressive is often used as a test to distinguish states from non-states, which only points up the flagrant circularity in the literature.

Though it is a well known fact, it is worth presenting the contrast between the progressive of a state and the progressive of a non-state:

- (29) a. *John is knowing French.
 b. John is studying French.

Know denotes a state, i.e. a property that holds for a period of time. *Study* denotes an event, i.e. something that happens, and is grammatical in the progressive. The explanation of the restriction illustrated in (29a) can be found in the intrinsic properties of the progressive as a stativising operator, i.e. an operator that converts an event into a state by focusing on its development. The progressive simply cannot apply to a state because the progressive requires an event and a state verb like *know* does not denote an event. This seems to imply that the lexical entry of verbs must be specified for their event-hood or state-hood.

If we focus on the realisation of the progressive as the periphrastic *be* + *V-ing* form, we see that certain predicates considered state verbs do, in fact, occur in the progressive. Sometimes these presumed "exceptions" turn out not to be true state verbs, as is the case with the so-called "steady-state" events and verbs of active perception. In some cases, however, the lexical verb is truly a state verb that seems to undergo "recategorisation" as an event .

2.6.1.1 Steady-state events

Several predicates such as *wait*, *sleep*, *sit*, *lie*, *stand*, *stay*, *live* seem to denote states, but accept the progressive quite comfortably:

[(30) and (31) are from Mufwene (1984), examples (47) and (48)]

- (30) a. A stranger is waiting for her in the car.
 b. A stranger waits for her in the car (when she comes out of the bank).
- (31) a. The baby is sleeping in her sister's bed.
 b. The baby sleeps in her sister's bed.
- (32) a. John is living/staying at his uncle's house.
 b. John lives/stays at his uncle's house.
- (33) a. The Sleeping Beauty is lying here.
 b. The Sleeping Beauty lies here.

Some of these predicates involve a subject in a steady position, e.g. *wait*, *sleep*, *sit*, *stand*, *lie* . Still they seem to be conceived of as events: their occurrence involves a change from the previous situation, they can be interrupted, and they have a start and an end. Talmy (1986) calls them "steady-state" events. ¹¹

¹¹Linguists' judgements vary. For Catalan, Gràcia (1989) says that position verbs are state verbs with controller subjects. The question raised by this proposal is the extent to which a controlled situation is not an event. See note 14.

When these predicates occur in the progressive they are interpreted as temporary situations as opposed to permanent ones, which is the way they are interpreted when they occur in the simple forms. Temporariness is thus a possible progressive interpretation, which means that the "in-progress state of an event" is nothing more than a general frame of interpretation which is refined and specified when it is filled by individual predicates. I would suggest that the reading of temporariness is due to the presence of the time variable introduced by the progressive operator. For instance, the verbs *sit*, *stand*, and *live* do not involve moving, creating, transforming things; there is not much "progress" in holding a position. The temporariness component stands out as the most relevant, aspectually speaking.

Herweg's model provides an explanation for the temporary reading of certain predicates in the progressive. Initially the explanation is intended for state verbs that receive event interpretations in the progressive. Probably the most typical instance is the verb *be* used predicatively, i.e. when followed by an adjective. An example of this is found in (34):

(34) John is being silly.

As presented in section 2.4, the relation PROG has an event as its first argument. Since the progressive operator is built on the basis of the PROG relation, and 'John be silly' denotes a state, it must first be converted into an event. This is achieved by the Phase Operator, which adds temporal boundaries to an otherwise unbounded situation. When the progressive operator is applied, the effect caused on the re-interpretation of the state is the temporariness reading. The semantic representation and the steps leading to it are the following:

1. Given a state predicate (John-be-silly), represented as a property of a period of time:

$$\lambda t (\text{John-be-silly } (t))$$

2. We apply the phase operator to it, which gives us the phase event of the state, i.e. an event type consisting in the occurrence of a "chunk" of a state:

$$\lambda e (\text{PO} (\text{John-be-silly})(e))$$

3. We apply the progressive operator to an event of the new event type and obtain:

$$\lambda t \exists e (\text{PO} (\text{John-be-silly}) (e) \text{ and } \text{PROG} (e,t))$$

4. When the predicate is applied to the time of utterance t^* , by lambda conversion we obtain:

$$\exists e (\text{PO} (\text{John-be-silly}) (e) \text{ and } \text{PROG} (e,t^*))$$

The last formula translates as "There exists an event e of the type 'Phase of the state John-be-silly', and e is in progress at time t^* ". In semantic terms, "John is being silly" denotes the in-progress state of the occurrence of a phase of the state $\lambda t (\text{John-be-silly}) (t)$.

Although it may look complicated, the final semantic representation involves successive bounding and unbounding operations starting at a state predicate and ending in a sentence denoting a state. The operators PO and PROG are, respectively, bounding and unbounding operators.

I think Herweg's account adequately exploits the resources of his theory. The only point that is left is to explain why *be silly* is reinterpreted as 'behaving in a silly manner' and not merely 'the state of "silliness" lasting only for a few hours'. There are two answers to this, and they are related to each other. First of all, converting a state into an event does not just add boundaries, but also incorporates a change in the meaning of the predicate. States which occur in the progressive are reinterpreted not just as temporary states, or states that hold for a short(er) period of time, but rather as true events, i.e. situations that happen, not just hold. That is why *being silly* is interpreted as 'behaving silly', and not as 'being silly for a few hours'. The second reason is that imposing

boundaries on the state λt (John-be-silly (t)) implies adding the inference that a short period of silliness is an instance of behaviour rather than a permanent property of someone. In Spanish and Catalan the verbs *ser* and *estar* correspond roughly to predication of permanent vs. temporary properties. It turns out that *Juan está tonto*, ('John is silly' temporarily) has the associated inference that John is behaving in a silly manner.

Further examples of states reinterpreted as events (with associated inferences) when they occur in the progressive may be found among the verbs that pedagogical grammars of English give as incompatible with the progressive. Some of them are *like*, *dislike*, *hate*, *love*, *refuse*, *understand*, *want*, etc. (35) is a widely discussed example:

(35) Mary is loving your fruit salad.

In this sentence, the NP *your fruit salad* denotes a specific object, existing at the utterance time. The liking holds true only of a specific period of time, i.e. is temporally bounded. Since liking something is usually a state that holds for an indefinite period of time, the state is reinterpreted as an event related to the behaviour of the experiencer. Reinterpretation as an event is associated with an overtone of insincerity (Zegarac 1989).

2.6.1.2 Lexical alternation

Pedagogical grammars of English list a set of verbs that may or may not occur in the progressive form depending on the thematic role of their subject. A subset of these is the group of verbs denoting perception. Consider (36):

- (36) a. I can taste /*I am tasting some strange flavour in your cake.
b. Your brandy tastes/*is tasting too sweet.
c. We are tasting a new wine tonight.

(36) illustrates the range of existing thematic grids of the lexical item *taste*. (36a) has a subject with the thematic role experiencer --the experiencer of perception. The object is the theme, i.e. what is perceived. The perceptual situation expressed in (36a) is non-active and non-voluntary. It has no inherent temporal boundaries, and it does not imply change. In English the verbs that express non-active perception are state verbs: *taste*, *smell*, *feel*, *measure*, *weigh*, *see*, *hear*. These verbs cannot occur in the progressive when an actual reading is intended.¹² To express that the perceptual state holds at a certain period of time, the modal *can* (expressing ability) must precede the perception verb, as illustrated in (37):

- (37) a. I can taste/*am tasting the lemon flavour in your cake.
 b. I can see/*am seeing the horses from the kitchen.
 c. They can hear/*were not hearing our voices, I'm sure.
 d. You can smell/*are smelling the fumes of that factory from a great distance.

(36b) illustrates the second sense of taste: the property of a material entity which can be the object of perception. The subject's thematic role is then the theme, not experiencer. Examples with other verbs are given in (38):

- (38) a. That new perfume smells/*is smelling like oranges.
 b. This new carpet feels/*is feeling rougher than the old one.
 c. This chocolate cake looks/*is looking delicious.
 d. That voice sounds/*is sounding like your aunt Melissa.
 e. I measure/*am measuring 75 centimetres round the waist.

¹²It is possible to find perception verbs like those in (37) in the progressive, though they are reinterpreted as events (denoting steady states). This phenomenon is discussed in section 2.6.1.1. Some examples are:

- (i) a. I feel /I'm feeling well. (Leech 1971)
 b. You look well/ You're looking well. (Leech 1971)
 c. I was seeing her for the first time as though she were static, no longer part of a moving chain. (Scheffer 1975)
 d. I'm hearing you clearly. (Leech 1971)
 e. ... even if what I was hearing now didn't make any sense at least it sounded as if it should make sense. (Scheffer 1975)

(36c) illustrates a third type of perceptual situation, which we can call active or voluntary perception. In this situation there is an agent or voluntary experiencer who performs some action, change is implied and thus it is an event. Given that these situations denote events, they may occur in the progressive. This is illustrated in (39):

- (39) a. John is looking at the pictures.
 b. Who is listening to this music?
 c. Why are you smelling the milk?
 d. I'm feeling the floor to find my glasses.
 e. Why is that man measuring the street?

Apart from verbs expressing perception, state-event alternations are found with verbs more or less related to cognitive abilities, and verbs of relation. Several are illustrated in (40)-(43):

- (40) a. *We think/*are thinking* that he will come.
 b. *We are thinking* about your proposal.
- (41) a. Archaeological findings *demonstrate/*are demonstrating* the existence of human settlements on the Australian continent as early as 5000 b.C.
 b. *Mary is demonstrating* the consistency of her theorem to her students.
- (42) a. I *suppose/*am supposing* that we will be back in one hour
 b. To prove this theorem we are *supposing* $E=\emptyset$.
- (43) a. The success of his new play *represents /*is representing* a victory over his critics.
 b. She is *representing* your client now. John resigned last week.

The triplets and/or pairs presented so far may be considered instances of lexical ambiguity, i.e. one lexical item corresponds to each thematic grid. In the case of *taste*, the lexicon might have three lexical entries, two corresponding to perceptual states, and one

for the perceptual event. This seems to be supported by two facts concerning the lexicon of particular languages. Firstly, for the same perceptual concept, different languages have different patterns of lexical realisation. For instance, the predicate 'to taste' has two different translations in Catalan, a transitive verb for the active sense *tastar* 'to try' (illustrated in (36c)), and the predicate *tenir gust* 'to have the taste of' with PP complement *de* + NP for the perceptual property sense (illustrated in (36b)). The Catalan predicate for non-voluntary perception (illustrated in (36a)) is *notar (un) gust* 'to notice a taste of'. Another argument in favour of the existence of separate entries is that within the same language there may be two distinct words for active and non-active perception, such as English *look* and *see*, respectively (also *listen* and *hear*).

State-event alternations are not uncommon in the lexicon of a language. English, for example, has a group of verbs with a state vs. culminated event alternation, that are described in Jackendoff (1990). The bounded or culminated event reading describes a change taking place whose final state is the state reading, i.e. the inchoative counterpart of the state verb. These verbs are *point*, *support*, *cover*, *hide*, *shelter*, *block*, *face*, *sit* and *stand*. Each sense of the verb occurs with the compatible adverbials. Thus, while the state reading is obtained when a duration phrase is appended to the VP, as in (44a), the inchoative reading can emerge, for instance, if a rate adverb like *quickly* is inserted preverbally:

- (44) a. The weathervane pointed north for hours. (state)
 b. The weathervane quickly pointed north. (event)

According to Jackendoff (1990:75), since not every state verb has a homophonous inchoative, this must be a lexically specified alternation, i.e. encoded in lexical entries.¹³

¹³He proposed a function INCH which maps a state into an event that terminates in that state:
 [EVENT] -> [Event INCH ([STATE])]

The two senses of the lexical item *point* are expressed in the lexicon in the following way:

1. state reading of "The weathervane pointed north (for hours)":
 [State ORIENT ([Thing WEATHERVANE], [Path NORTH])]

A plausible alternative to the seemingly uneconomical doubled --or tripled-- lexical entries might be to have one basic entry corresponding to the state predicate. In a given sentence the co-occurrence of certain "eventising" elements with a state verb may result in an event interpretation. As we have seen in the state vs. inchoative event alternation, the element which compositionally determines the inchoative reading is the adverbial *quickly* (44b), whereas a durative adjunct *for hours* would prompt the state reading (44a). In the case of perception verbs, a subject (external arguments) with the features [+animate] or [+control] may induce an event reading of the perception verb, whereas an external argument with the opposite values for the same features would prompt a state reading.¹⁴ This does not imply that all events in the progressive have agent subjects, as many verbs which occur in the progressive have external arguments with other thematic roles, as the following examples based on Jackendoff (1990: 259, 260) illustrate.

- (45) a. John is running (John= Actor/theme)
 b. The tank is filling (The tank= Patient/goal)
 c. Max is undergoing an operation. (Max = Patient)
 d. Amy is losing the money (Amy = Patient/ source)

2.6.1.3 States interpreted as events: semantic triggers

When the progressive operator applies to a predicate, a successful interpretation can only be reached if the predicate denotes an event. Sentences with state predicates in the progressive form seem to receive progressive interpretations if there is any element in the sentence which adds a component of change, and thus, of development, to a state predicate. One of these explicit markers of change is the combination of a degree phrase and a temporal expression denoting the time period over which the change takes place.

2. event reading of "The weathervane (quickly) pointed north"
 [Event INCH ([State ORIENT ([Thing WEATHERVANE], [Path NORTH])])]

¹⁴The feature [+/-control] is introduced in Gràcia (1989:140), adopted from Dik (1978:54) cited in her work. A controller has the capacity to determine the occurrence of a given state of affairs.

This is the case of (46) and (47), taken from Brinton (1988) and Zegarac (1990). Similar Catalan examples are discussed in Espinal (1983).

- (46) a. Good food costs more.
 b. *Good food is costing more.
 c. Good food is costing more since devaluation.
- (47) a. The baby resembles her mother.
 b. *The baby is resembling her mother.
 c. The baby is resembling her mother more and more.

(46a) and (47a) are grammatical, since the main verb takes the simple present form, as corresponds to state predicates. (46b) and (47b) cannot be interpreted because the predicate denotes a state and the progressive requires an event-type. In (46c) and (47c), *more* denotes an increasing quantity and the adjunct *since devaluation* provides the initial point of the time at which the increase starts taking place. In this example, each of the time points between "devaluation" and the present is characterised by a different property. If there is change over time, the situation is no longer a state, and thus the progressive operator can apply to the predicate. The reading obtained is "One day good food costs more than on the previous day". In (47c), the expression *more and more* combines the meaning of degree expressed by *more* and that of succession expressed by *and*. The evaluation time is fixed as a period of time, not as a point. There is change over time, as the degree of resemblance is different at every point of evaluation in the time period.

The present perfect may also trigger an event reading of a state verb combined with the progressive. In Reichenbachian terms, the present perfect realises the temporal relation E_R,S. That is, the event time precedes the reference time, which is co-temporaneous with the utterance time. The present perfect carries the implication of the existence of a time period extending from a point in the past to the present. If a situation can be

understood to develop from its start in the past up to the present, the progressive is interpretable as referring to a situation evolving over the time period. This is illustrated in (48) [Zegarac 1990: (40)].

- (48) a. *The baby is resembling her mother at the moment.
 b. ? The baby's been resembling her mother for a month now.¹⁵

Certain temporal expressions seem to be more frequent than others in sentences with state verbs in the progressive. For instance, the NP *these days* (and also the almost synonymous *nowadays*) contrast with *at the moment*. See examples from Brinton (1988) and Zegarac (1990):

- (49) a. Food is costing a lot these days. [Brinton 1988: (39)]
 (50) a. Nowadays the kids are wanting us to bring them toys. [Zegarac 1990: (42)]
 b. *The kids are wanting us to bring them toys at the moment.
 (51) a. John is owing a lot of money to the company these days.
 b. *John is owing a lot of money to the company at the moment.

[Zegarac 1990: (43)]

In (49), (50), and (51) the adjuncts *these days* and *nowadays* denote a longer (and less definite) stretch of time located in the present than the PP *at the moment*.¹⁶ Assuming that states receive event readings if they are reinterpreted as involving change over time, adjuncts denoting longer periods of time are more likely to allow an event reading.

2.6.1.4 Recapitulation

In this section we have seen evidence that almost any lexical entry for a state verb is likely to find a way into a progressive interpretation. Postulating the existence of two

¹⁵Some native speakers of American English do not accept the verb *resemble* in this progressive construction, although they would grant a question mark to *look like*, which is also a state verb.

¹⁶Zegarac (1990:131) *these days* and *nowadays* "refer to a broader, more inclusive idea of present time than *at the moment*, which anchors the sentence strictly to the time of communication."

entries, a state verb and an event verb, seems uneconomical, as the default reading is always the state reading. It seems reasonable to conceive these entries as underdetermined as states, and let the linguistic context provide a way to determine an event reading.

Progressive aspect expresses a certain point of view over events, and states if they can reach "event status". There is a further restriction on what kinds of events can be viewed progressively. In order to be in progress, events must have duration (see section 1.2.1.1) or, in other words, must be extended events. This restriction is discussed in the following subsection, where we concentrate especially on the progressive of achievements and punctual situations.

2.6.2 Events with inherent duration

All theories of the progressive, especially those based on events rather than on intervals of time, must account for the fact that the progressive of events with no inherent duration (achievements and punctual situations) do not accept a progressive point of view. Typical examples are given in (51):

- (51) a. *John is finding his book in the garbage bin.
b. *Mary is realising the implications of her discovery.

The ungrammaticality of the sequences in (51) stems from the aspectual character of *to find a book* and *realise the implications*. Finding a book (in the sense of becoming aware of its existence or getting possession of it by chance) is a situation where a change in the state of affairs takes place in an instant of time, from ignoring the existence, location, etc. of a certain book to knowing it. *Find his book* is pure culmination, there is no development phase (where *find*, we insist, does not mean 'perform the action necessary to bring about the change'). The progressive, in sum, requires an extended event, an

event that extends over a period of time, as in *John is looking for a book*, *John is shopping for a book*, etc.

But parallel to the case of state predicates which occurred in the progressive if an event reading were made possible, events lacking a development phase do occur in the progressive as long as an extended reading is made possible. This happens in two ways. The first one is particular to the domain of aspect, but the second is an instance of a more general property of natural language as the expression of cognitive concepts: the capacity to express plurality.

Achievements are not extended events. But when they occur in the progressive they carry the implication that a preparatory stage exists, since that is the part of the event that can be understood to be in progress. Simply stated, achievements become accomplishments if they occur in the progressive. Whether an achievement may be re-interpreted as an accomplishment depends on its lexical content. The progressive of a verb like *arrive* (e.g. *The ship is arriving*) means that the ship has entered a phase leading to the moment when it is no longer away (the arrival). But the achievement expressed by *find* does not easily allow a preparatory process, unless it is interpreted as 'look for', which is a different sense altogether. The extra-linguistic context may allow a re-interpretation of the meaning of the event. Consider the example below, in (52):

(52) S1: Look at Maria's face! What's she doing?

S2: She's sneezing.

We need to picture a situation like a video recording that is played in slow motion, or a photograph. When one sees Maria's face muscles in a certain shape, one can say (52). The event is seen in its different development phases, though in most circumstances a sneezing event is considered as a whole. The progressive construction *She's sneezing*

takes a close-up perspective into one sneezing event, in the terms developed in Talmy (1986).

Vlach (1981: 290) discusses similar examples and, more importantly, the different extents to which achievement verbs can be added a development phase. In his view, the progressive denotes the last part of the process leading to the achievement itself: "This last part is simply some final portion of the process, which may or may not be qualitatively different from what precedes it. (...) To say that a ship is arriving may be to say that it has entered the harbor, or that it has begun procedures for docking, or something of the sort (...)". Verbs like *astonish*, or *explode* are unusual in the progressive, presumably because "there is no process that characteristically leads to their truth". In the terms of Higginbotham (1994), when the process stage that the progressive selects is undefined, i.e. when an event does not have a process in its internal structure, it must be supplied by the context. For instance, arriving is given a process stage by including the preparations.

For those other achievements and punctual events which cannot be reinterpreted as accomplishments, e.g. those expressed by *find*, *recognise*, *hit*, and *tap*, the only progressive state possible for the relevant period of time includes multiple instances of the same event, that is, progressive comes associated with iteration. Iteration is one form of plurality in the domain of events. Plurality is introduced in the sentence compositionally through lexical entries, and through syntactic and semantic information. For instance, certain punctual events normally occur in series, and this is thus part of their lexical information: this is the case of sneezing, tapping, and knocking. Verbs like *giggle*, *hammer*, etc. are marked with the iterative suffixes *-le* and *-er* (see section 1.2.1.4). Syntactic-semantic information that contributes to plurality is the definiteness and grammatical number of the predicate's arguments, as discussed in section 1.2.1.2. Consider examples (53) and (54):

-
- (53) a. *Unfortunately, John is finding one error in this paper.
b. Unfortunately, John is finding too many errors in this paper.
- (54) a. *Mary has been breaking her ankle all morning.
b. People have been breaking their ankles all morning.

In (53b) the plural object *many errors* implies several instances of an error-finding event in the time period evaluated. (54b) illustrates a distributive reading of an event, prompted by an indefinite plural subject. The progressive does not denote one single event in progress but a single period of time characterised by the iteration of events of the same type involving different members of the group denoted by the subject.

2.7 Summary and conclusions

A state is a property predicated of a period of time, in Herweg's framework. One of the properties that may be predicated of a period of time is that an event is in progress at that time. Natural language provides structures to express progressive aspect. In English it is the sequence *be + V-ing*, in Romance languages there are periphrastic sequences and also verbal inflectional morphemes. In this chapter I have attempted to show the extent to which the period of time and its logical representation, a time variable, are central to an explanation of the interpretation of the progressive form in a variety of contexts: in the scope of semantic operators such as modals, habituais (either overt or abstract), etc. For this reason we have adopted Herweg's definition of the progressive, since it explicitly includes a variable that stands for a period of time. In section 2.4 I have illustrated how different readings of the progressive correspond to different binding possibilities for the time variable.

The discussion of the lexical selection properties of the progressive in section 2.6 illustrates several of the compositional factors in the realisation of progressive aspect.

There we observed that whether a progressive sentence with a state verb is ruled as ungrammatical or not depends besides the lexical content of the verb and the nature of its arguments, on other factors such as the verb's adjuncts/modifiers and the presence of other operators such as the evidential verb *seem*, markers of perfect tense, etc.

If we go from the semantics of the progressive to its structural or syntactic realisation, the verb clearly 'stands for' or realises the event (its arguments will compositionally determine its *aktionsart*). One question is left, namely what element or elements realise the time variable involved in the progressive relation, and how this relation is determined. This is the central issue in this dissertation. In the chapters following chapter 3, I present a specific proposal from a syntax perspective, within the Principles and Parameters framework.

Chapter 3

The Catalan Progressive Structures

3.1 Introduction

Catalan, like other Romance languages, possesses two progressive verbal sequences that express distinct perspectives over the development of an event, as opposed to English, which has only one such combination (*be* + *V-ing*). The sequence *estar* + gerund is closer in meaning to English *be* + *V-ing*, since it realises the progressive state of an event. The other progressive periphrasis consists of the verb *anar* (Catalan) (*ir* in Spanish and Portuguese), and expresses what we may call the distributive view on the development of an event.

The study of the meaning of these periphrases is centered mostly around the first items, which have traditionally been considered auxiliaries because they are not involved in predication relations with the other phrases in the sentence. On a purely observational level, however, one would not say that *estar* and *anar* are contentless. Let us suppose for a moment that we placed all the verbal sequences along a line according to the degree of lexical content of the first item. On one end of the line we would place the temporal periphrases *haver* + past participle (perfect tenses) and *va* + infinitive (periphrastic perfective tense) since their auxiliaries contribute mainly temporal information but do not contribute lexically to the interpretation of the sequence.¹ On the other end of the line we would place modal and aspectual sequences whose first verbs contribute their lexical information to the interpretation of the whole such as *poder* 'can'+ infinitive, and *començar* + *a* + infinitive 'begin to', respectively (see Hernanz and Rigau 1984, Picallo 1990, Llinàs 1990). The sequences that concern us in this chapter seem to possess less

¹See Curell (1990) for an account of the meaning of the present perfect in Catalan and English from a

lexical content than modals and aspectuals, and thus would be placed in between.² The question to determine is the lexical content of the first items of the progressive periphrases. In this chapter we will develop the idea present in early work on historical grammar of Catalan (see Roca i Pons 1961) that these items preserve the *aktionsart* of the corresponding entries as full verbs, and this is their contribution to the meaning of the whole sequence.³

Progressive aspect is realised in Catalan not only by verbal sequences, but also by inflectional affixes such as the realisation of the simple imperfective past morpheme. In this dissertation the term 'progressive structures' is used to refer to all those linguistic devices that realise progressive aspect. In this chapter we analyse only the progressive periphrases and leave the analysis of the imperfective past morpheme for chapter 7.

The structure of this chapter is the following. In section 3.2 we briefly survey the traditional (descriptive and normative) work on Catalan grammar (which, unfortunately, only offers very general comments on the topic of progressive aspect). In sections 3.3 and 3.4 we concentrate on the semantics of the periphrases *estar* + gerund and *anar* + gerund, respectively. In 3.5. these notions are given formal expression in the framework of Herweg (1991a,b), and we also propose the lexical entries for progressive *estar* and progressive *anar*. In 3.6 the differences between the two perspectives are discussed. A summary section closes the chapter.

²In fact this picture matches the status of the progressive as an object of study in Romance linguistics. The literature covers both ends of the imaginary line, but the progressive periphrases are generally set aside in the scholars' selection of data.

³While I was in the final stage of writing this dissertation, a thesis on Romance periphrases was read at the Scuola Normale in Pisa (Squartini, 1995), which defended exactly the same notion: that the *aktionsart* of the auxiliary is retained in the process of grammaticalisation of periphrases.

3.2 Progressive structures in descriptive Catalan grammars

Descriptive grammars mostly classify verbal sequences following a formal criterion, the (non-finite) inflectional morphology of the second item (infinitive, gerund or past participle). This classification is only superficially formal, since each form is considered traditionally to differ in the kind of temporal content it expresses. See for example, Badia i Margarit (1962: 392), and his later version of which we reproduce a quote:

"En general, 1) les perífrasis formades amb infinitiu tenen valor progressiu i miren cap al futur (...), 2) les perífrasis amb gerundi posseeixen valor duratiu o reiteratiu i miren cap al present, i 3) les que són compostes amb participi revelen un valor terminatiu o perfectiu i miren cap al passat." (Badia i Margarit 1994:614)

In general, 1) the periphrases built with an infinitive have progressive value and are future-oriented (...), 2) periphrases built with a gerund have durative or iterative value and are present-oriented, and 3) those built with a participle have a terminative or perfective value and are past-oriented."

The notion that we have called progressive following the English literature on the topic, which focuses on the development of an event, is 'present-oriented'. Descriptive grammars refer to it with the terms 'duration' and 'durative'. The term 'progressive' refers in the previous quotation to those structures which locate a situation as oriented towards the future, meaning that the situation in question will take place in the future, or that there is a certain intention or probability that it will occur in the future. In Fabra (1956) progressive refers exclusively to the kind of aspect expressed by *anar*+ gerund, defined as "progress of the action." In the same work, *estar* + gerund is defined as the construction which marks "the durative aspect of the action expressed by the verb".⁴

⁴Traditional grammar includes in the group of "durative periphrases" the combinations *continuar* + gerund and *seguir* + gerund. The basic semantic difference between *estar* and *anar* + gerund and the continuation periphrases is in their choice of situations. *Estar* and *anar* have a lexical restriction against state verbs, while *continuar* and *seguir* do not. A state is a situation that can be conceptualised as continuing through time, since continuation does not necessarily imply change. States can continue to hold, but they cannot be in progress. The following sentences illustrate this point:

(i) a. * El poble està/va detestant la guerra.

Neither "durative" nor "progress" is defined, probably because the reader is expected to be able to interpret them as terms referring to varieties of aspect. Anfós Par (1923) had described the Latin origin of the periphrases in similar terms: "In order to insist on the duration of the action, Latin added the present participle to *esse, stare (est legens)*: (p.307, my translation).

Traditional grammarians have not undertaken a thorough study of progressive structures that goes beyond providing labels. In the most recent descriptive grammar of Catalan, Badia i Margarit (1994: 619), the subject is quickly dismissed with the statement that *estar* + gerund and *anar* + gerund are interchangeable to a certain extent, but that it is possible to find instances in which they express different perspectives, as "empirical knowledge of the language tells us". One of our aims in this chapter is to give a formal and systematic treatment to our "empirical knowledge of the language".

3.3 The progressive state of an event: the sequence *estar* + gerund

In chapter 2 it was argued that progressive aspect involves viewing the development of an event as a state. Like English *be* + *V-ing*, the Catalan verbal sequence *estar* + gerund realises the progressive state of an event. To prove this statement we have to show that the sequence *estar* + gerund behaves like verbs that denote states lexically.

d. El llibre continua/segueix pertanyent a en Joan.

Continuar offers a certain temporal perspective by virtue of its lexical content. The relation between the auxiliary and the second verb may be explained as mere subcategorisation of an event or a state. Notice that instead of a gerund, the event or state can occur in the form of a noun phrase:

- (ii) Després de la dimissió del ministre, la successora va continuar la tasca començada.

The notion of continuation and the periphrases that express it are not in the scope of this dissertation. Among the durative periphrases of traditional grammar, we are interested in those that express progressive aspect

3.3.1 The progressive in the scope of irrealis operators

One of the linguistic contexts where states can be distinguished from non-states is the scope of **modals**, in particular those modals whose interpretation depends on the complement's state-hood. One such modal is *poder* 'can'. With a state complement, *poder* has an epistemic reading, more specifically, it denotes the possibility that something is the case in the present. With events, *poder* has root readings, i.e. ability and permission; an epistemic reading is possible, but it is future-oriented, i.e. the possibility that something will happen in the future. When the complement of *poder* is a progressive sequence the interpretation is epistemic and present-oriented, as with lexical states. The contrast is illustrated by the sentences in (1):

- (1) a. Els nens poden jugar amb el nostre ordinador.
 'The children are allowed to play with our computer.'
 'The children know how to play with our computer.'
- b. Els nens poden saber com s'engega el nostre ordinador.
 'The children may know how to turn on our computer.'
- c. Els nens poden estar jugant amb el nostre ordinador.
 'The children might be playing with our computer.'

(1a) is interpreted as expressing permission and ability, respectively, because *jugar* 'to play' denotes an event. (1b) can only be interpreted epistemically because *saber* 'to know' denotes a state; a permission reading is not possible. Similarly, (1c) is interpreted epistemically because *estar jugant* 'be playing', also denotes a state.

In the scope of a modal which allows both epistemic and deontic readings the progressive state of an event receives the same interpretation (epistemic) as a state. Naturally, when modals only have a deontic reading, neither lexical states nor progressive states can be interpreted epistemically. One such modal is *voler* 'want', illustrated in (2):

- (2) a. Vull viatjar a Grècia.
'I want to travel to Greece.'
- b. Vull conèixer Grècia.
'I want to know Greece.'
- c. D'avui en una setmana, vull estar viatjant (cap) a Grècia.
'A week from today, I want to be travelling to(wards) Greece.'

(2a) expresses the wish for an event to happen. (2b) expresses the wish (or intention) for a state to hold. Similarly, (2c) expresses the wish for the progressive state of the event 'travelling to Greece' to hold at the time specified by the temporal adjunct *d'avui en una setmana* 'a week from today'. The progressive thus has the same reading as a lexical state verb.

The possibility for a modal to have an epistemic reading is language dependent, but the behaviour of the progressive is consistent. In French, for instance, *pouvoir* expresses permission. Epistemic readings are not realised by the modal but by the adverbial *peut-être*. Predictably, the combination *être en train de* + V, which is one of the possible realisations of progressive aspect, occurs with the epistemic adverbial, as in (3a), but does not occur as complement of *pouvoir*; rather, the simple form (the infinitive) occurs, as in (3b):

- (3) a. Les enfants sont peut-être en train de nager dans la piscine.
'The children may be swimming in the pool.'
- b. Les enfants peuvent nager dans la piscine.
'The children may swim in the pool.'

Another linguistic context which triggers parallel interpretation effects is the **future tense**, which is another irrealis context. In our examples, the clause in the future tense is placed in the frame of a *when* clause.

- (4) a. *Quan arribis farem un pastís.*
 'When (you) get home, we will make a cake.'
- b. *Quan arribis estarem fent un pastís.*
 'When (you) get home, we will be making a cake.'

In (4a) the whole baking event takes place at or after the complete occurrence of the event expressed in the subordinate clause. In (4b) the baking event is in progress when the event in the subordinate clause takes place. The progressive state is interpreted as the temporal frame in which the event in the subordinate clause occurs.

Habitual sentences show similar effects. Consider the sentences in (5), where the adverbial *sempre* 'always' and the imperfective tense form of the subordinate clause introduced by *quan* 'when' induce a habitual reading.

- (5) a. *Quan ella arriba de la feina, ell sempre fa un pastís.*
 'When she gets home from work, he always makes a cake.'
- b. *Quan ella arriba de la feina, ell sempre està fent un pastís.*
 'When she gets home from work, he is always making a cake.'

The simple tense form *fa* in the matrix clause in (5a) asserts the complete occurrence of a baking event --from start to end-- starting at the time of occurrence of the event in the subordinate clause, in this case someone's arrival. The periphrasis in the matrix clause of (5b) asserts that the event is in progress at the time of occurrence of the event expressed by the subordinate. Notice that it is possible to add a sequel eliminating its culmination. This happens in (6).

- (6) *Quan ella arriba de la feina, ell està fent un pastís, [però mai no l'acaba perquè ella vol parlar.]*
 'When she gets home from work, he is always making a cake, but he never finishes it because she feels like talking.'

In sum, in irrealis contexts the progressive sequence *estar* + gerund denotes a state, whereas the simple form of an event individuates that event without reference to its development. Thus, the distribution of the two morphological alternatives may be considered complementary in these contexts. In English this is a general fact concerning the progressive vs. simple forms, i.e. each form is the unmarked expression of a reading or set of related readings. In contrast, in Catalan and Spanish there is a certain degree of free variation when the intended reading is an actual event.⁵ In Romance languages simple forms are the unmarked forms for both actual event readings and habitual readings. However, it is also possible to find, as in English, the progressive sequence *estar* + gerund to express actual events. This is the subject of the following section.

3.3.2 Actual event reading of *estar* + gerund

To understand when and why the simple forms and the progressive periphrasis are interchangeable, we have focused our attention on the time adjuncts that co-occur with the progressive sequence, especially since the occurrence of temporal expressions referring to a specific time seems to be almost obligatory. Temporal expressions serve the purpose of anchoring the time period of which the progressive state is predicated. Among the most frequent temporal adjuncts there are *en aquests moments* 'at these moments', *ara* 'now', *durant dies* 'for days', *enguany* 'this year' in sentences (7) to (11). If there are no explicit temporal phrases that retrieve that time period, then it must be retrieved by the context.^{6, 7}

⁵Even the two "marked" uses that might be taken as an exception can be explained as instances of individuation of events at the speech time: reporting events as they are unfolding (typically in broadcasting of live events), and in performative speech acts (promising, declaring, etc.)

⁶Deprived of any kind of temporal specification, and deprived of a context which can provide it anaphorically, a sentence in the progressive becomes anomalous, particularly if the situation denoted by the predicate lacks an inherent end. This is illustrated in (i)

- (i) a. La Maria treballa.
 b. ? La Maria està treballant.
 c. La Maria està treballant des de les tres.

(ia) denotes the actual occurrence of an activity. (ib) is anomalous because it lacks the definition of a time

- (7) a. Ja s'estan plantejant en aquests moments, en bona part del mercat immobiliari, les ofertes d'habitatge en distàncies situades a 30 i 40 km de l'espai central.
'Already there is arising at this moment, in a substantial part of the real estate market, a supply of housing in areas situated at 30 and 40 kilometres from the central space.'
- b. En aquests moments, Ibèria no s'està plantejant la possibilitat de realitzar fusions amb altres empreses aèries, (...)
'At this moment, Iberia is not considering the possibility of merging with other air carriers.'
- c. Cal recordar, per exemple, les Halles de París, on la major part de l'edificabilitat comercial està excavada sota el nivell de la plaça. Això està passant a casa nostra en aquests moments.
'One must remember, for instance, les Halles in Paris, where most of the space for business centers is right below the square. This is happening in our own backyard at this moment.'
- d. Però canalitzar els trànsits de pas, com s'està intentant fer ara amb els cinturons, és una condició indefugible de la qualitat urbana.
'But, to direct the through traffic, as they are trying to do now with the beltways, is an inescapable condition of urban quality.'

the utterance time, but there is no other situation with which this activity in progress can be matched. (ic) provides a time period of which the progressive state is predicated, and the sentence is acceptable.

⁷examples (7a,c,c), (8), (10a), (14e) are extracted from the transcribed text of various contributions in a conference-debate on the problems of city and area planning of Barcelona, edited as Cullell, J.M. (ed.), (1991) *Reflexions sobre Barcelona*, Tibidabo Edicions, Barcelona. (7b,e), (14b,c) are from different newspapers. Finally (14d) is from Mercè Rodoreda's *El carrer de les camèlies*.

- e. "Salvem el monestir" és el lema escollit per les entitats per definir la festa de tardor d'enguany. Aquest lema no ha agradat a l'equip de govern municipal (...) i ha proposat el lema alternatiu de "Estem salvant el monestir".
' "Save the monastery" is the slogan chosen by the organisations to define the fall festival this year. The slogan has not pleased the town government team (...) who have proposed the alternative slogan "We are saving the monastery".'

The increasing use of the periphrasis when only an actual event reading is intended has been long documented in traditional normative grammars (see Par 1923, Fabra 1956).

Sentence (8) is a sample of the phenomenon (note the relevant forms in italics):

- (8) Ara bé, com integrem els costos? De quina economia *estem parlant*? D'economia d'economista o d'economia de comptable? De què *parlem* ?
'O.K., how do we integrate costs? What kind of economy are we talking about? (present progressive) Economics as practiced by economists or economy as practiced by accountants? What do we talk about?' (simple present)

The actual event reading of the periphrasis with *estar* is not restricted to the present. The same reading obtains in all tenses.

- (9) a. Vam arribar quan *estaven* dinant.
when be-imperf eating
b. Vam arribar quan *dinaven*. [Fabra 1956]
when eat- imperf
'We arrived when they were having lunch.'

- (10) a. I jo, que he estat veient un conjunt de treballs molt interessants de Josep M. Cullell sobre aquests temes, presento una petita discrepància com a argument.
'And I, who have been seeing (be - present perfect progressive) a set of very interesting papers by J.M.C. about these topics, present a small discrepancy as my argument.'
- b. I jo, que he vist un conjunt de treballs, (...)
'And I, who have seen a set of papers (present perfect).'
- (11) a. Durant dies, l'equip de rescat va *estar* donant voltes amb l'helicòpter.
For days, the rescue team be-perfective past flying around in the helicopter
'For days, the rescue team was flying around in the helicopter.'
- b. Durant dies, l'equip de rescat va donar voltes amb l'helicòpter.
For days, the rescue team fly around- perfective past in the helicopter
'For days, the rescue team flew around in the helicopter.'

The most extended hypothesis (see e.g. Roca i Pons 1961, Badia i Margarit 1994) is that each form (progressive periphrasis and simple tense affix) is becoming specialised.⁸ The argument is that, since the simple forms (present and imperfective past) have habitual as well as actual readings, specialisation is a form of preventing a potential ambiguity between a habitual or generic reading and a present-moment or actual event reading. The weakness of this argument is that such ambiguity seldom arises. Preventing ambiguities may be one effect, not the motivation that drives the change. In this respect, the extension of the use of *estar* + gerund from the progressive reading to an actual event

⁸Something similar happens in Spanish, where the periphrasis simply replaces the simple forms in many cases, particularly in the spoken language (see Seco 1989, Fernández Ramírez 1986 for details).

reading is matched by the extension of copula *estar* to uses which, historically and prescriptively speaking, belong to the range of the other copulative verb *ésser*.⁹

In examples (7)-(11) the presence or absence of the periphrasis makes little difference. However, there are cases where the progressive periphrasis seems to be the preferred choice. Consider the following excerpt of a narration (translated in footnote) ¹⁰:

(12) " Entràrem a la rectoria només empenyent la porta, que mai no és tancada, ni a la nit.

- *Deo gratias!*

- M'estic dutxant!

No coneixia aquella veu fantasmal que venia del pis. (...)

(...) Un dels minyons va provar d'obrir la porta.

- M'estic dutxant!

La corrua de minyons vinga trucar a la porta.

- M'estic dutxant! Surto de seguida! " (Josep M. Ballarín, Avui 3-7-1994)

In this situation the speaker and the addressees cannot see each other. The speaker announces that he is taking a shower. The periphrasis is his first utterance in the message, without any previous explanation or background to his action. The proposition uttered by the speaker is primarily about himself. The alternative form, *Em dutxo!*

⁹Traditionally the difference between Catalan *ésser* and *estar* is described in terms of the properties are attributed to the subject of the sentence. Whereas *ésser* attributes a property that defines the subject (may be an inherent property or a permanent one), *estar* attributes a state (the situation of an individual such as the place where one lives or works, or a property that results from a change). Replacement of *ésser* by *estar* seems to occur when it is unclear whether the attributive complement denotes a property or a state, in other words, when a property comes to be conceived of as a state. One such case is adjectives derived from passive participles, e.g. *caducat* (expired). Thus, we find both "Aquest passaport *és* caducat" and "Aquest passaport *està* caducat." (This passport is expired). Extension of *estar* to the range of *ésser* may reflect the speaker's preference to place the truth of a proposition at a particular, actual, definite time rather than an indefinite, more general time (a state is always predicated of a period of time). This may also explain the use of the progressive periphrasis to express the actuality of an event.

¹⁰We went into the rectory by only pushing the door, which is never locked, not even at night.

"Deo gratias!"

"I'm taking a shower!"

I did not know the ghostly voice that came from the upper floor. (...) One of the kids tried to open the door.

"I'm taking a shower!"

The bunch of kids tried again and again to open the door.

"I'm taking a shower! I'll be out in a second!"

would not be a good choice, but no ungrammaticality would be involved. This is the crucial issue --how to explain this choice, i.e. why the periphrasis is preferred over the simple form.

The aspectual account is that *estar* + gerund explicitly marks the event as being in progress, and thus as not finished. Being in the middle of a shower event is an explanation for not going to meet the newcomers. But the simple form *Em dutxo* 'I take a shower' also expresses actuality, which should be informative enough. However, if the speaker wants to convey both what he is doing and where he is, then the use of *estar* + gerund is more felicitous, since *estar* may also express location.¹¹ The link between the properties of *estar* as a copula and the aspectual properties of *estar* as the progressive auxiliary will be discussed more thoroughly in section 3.5. We turn now to the sequence *anar* + gerund.

3.4 Progressive aspect and the periphrasis *anar* + gerund

Given that the basic properties of the periphrasis are present in the auxiliary, we will focus our attention on *anar*. As a full verb, *anar* is a verb of motion.¹² One sense of *anar* requires an obligatory goal, as in (13a), another sense does not (see (13b)):

- (13) a. En Pere va al supermercat.

¹¹Prescriptive grammars like Badia (1994: 284-285) admit the copula *estar* for locative uses "in the presence of a very specific temporal determination". In spoken, non-formal Catalan, however, *estar* is widely used to express temporary location of [+animate] beings, e.g. the place where one lives or works.

¹²Historically speaking, the same verb has given rise to two distinct periphrastic forms, whose meanings are based on the concept of temporal distance or separation. Apart from being the progressive "auxiliary" when followed by a gerund, it can combine with an infinitive to form the periphrastic form of the perfective past in Central Catalan.

- (i) Tu vas cantar moltes cançons.
You go-present sing (inf.) many songs.
'You sang many songs.'

In the perfective periphrasis, *anar* expresses the distance between the utterance time and a time located in the past), i.e. between a present utterance time and a past event time. Synchronically speaking, it may be argued that lexical *anar* and perfective *va* are different verbs, as indicated by the existence of morphological variation for the 2nd p. sing., 1st p.pl., and 2nd p. pl.: *vares, vàrem, vàreu* (perfect. auxiliary) vs. *vas, anem, aneu* (full verb), see DeCaesaris (1988).

'Pere goes/is going to the supermarket.'

- b. En Pere va pel món sense diners.

'Pere goes about with no money/never has money on him.'

The sequence *anar* + gerund expresses the development of an event viewed as a succession of stages. The interpretation of this sequence mainly depends on two factors: whether the arguments of the predicate denote one or more individuals, and whether the event denoted by the predicate has inherent culmination. If one of the arguments denotes multiple individuals (either because it is morphologically plural or because it has collective reference), the period of time is characterised by the occurrence of the same type of event gradually to each individual denoted by the argument, giving rise to a distributive reading, as illustrated in the examples in (14), where the argument with plural reference is underlined for easy identification.

- (14) a. I tot seguit, anava agafant un objecte darrere l'altre (...) ¹³

And soon, she was picking out one object after another, (...)

- b. En realitat, aquesta ha estat una de les múltiples notícies falses que Joey Skaggs ha anat inventant durant vint-i-cinc anys amb l'objectiu de cridar l'atenció del públic (...) [Avui, 4-6-92]

'In fact, this is one of the multiple false news items that Joey Skaggs has gone on inventing for twenty-five years in order to call the public's attention.'

- c. La nova directiva exigirà que a mesura que passin els anys es vagin establint límits més exigents a les emissions.

¹³From *The Secret Pilgrim*, by John le Carré, 1990, Ballantine Books, New York. The Catalan gloss is from the translation *El Pelegrí Secret*, by Elisabet Ràfols, Edicions 62, Barcelona.

'The new guidelines will demand the gradual enforcement of stricter limits on emissions.'

- d. Els llums es van apagar a poc a poc. Els que tossien van anar parant de tossir.

'The house lights dimmed. The people coughing gradually quieted down.'

- e. S'hauria de procurar que no hi hagi districtes que es vagin progressivament despoblant en favor del terciari.

'Care should be taken so that there are no districts which are progressively (lit. go) becoming depopulated / become depopulated to the advantage of the tertiary sector.'

The verbs in (14a,b,c) are transitive. Their subjects have singular reference, and their objects plural reference. The sentences denote series of events of the same kind in which the subject is the same each time while the objects are different individuals: in (14a) each object-picking event involves a different object, in (14b) each news-making-up event results in a different news item; in (14c) each limit-establishing event has a different limit as its outcome. Sentences (14d, e) have intransitive verbs. The individuals denoted by the plural subjects are involved in the events described by the verb one at a time. In more abstract terms, given an event-type, the periphrasis denotes the occurrence of several events (tokens) of that type affecting the entities denoted by the arguments of the predicate on an individual basis. In other words, there is a distributive reading of events.

The notion of distribution is reinforced by lexical and structural devices: adjuncts such as *progressivament* 'progressively' (14e), a temporal clause introduced by *a mesura que* 'as' (14c), and possibly also comparative adjectives that introduce the notion of degree, e.g. *més exigents* 'stricter' (also in (14c)). In English, in the absence of a specific verbal

sequence, the distributive progressive is conveyed by parallel lexical and structural devices, as rendered in the translations.

If none of the arguments denotes multiple individuals, boundedness (existence of inherent end point) plays a relevant role in the following sense. If the event has inherent culmination (an accomplishment) the period of time selected by *anar* + gerund is characterised by the development, stage after stage, of an event, allowing for gaps between different stages of the process.

(15) a. Una idea se m'anava formant.

'An idea was taking shape in my mind.'

b. Aquella tarda un núvol molt gros es va anar escampant per damunt de les barraques.

'That afternoon, a huge storm cloud spread over the shacks.'

The predicates in the preceding sentences denote accomplishments; the periphrasis emphasises their development phase rather than their culmination. In the development of the event no stage equals the previous or the following stages. For instance, in (15a) each stage in the formation of an idea differs from the previous one. In (15b) someone looking at the sky would see it changing from one minute to the next. As the translations of both sentences in (15) illustrate, English may express gradual development by means of verbs such as *to spread*, *to widen*, *to darken*, *to ripen*, etc. which contain the notion of gradual change inherently (Abush 1986).

If there is no inherent end point, *anar*+ gerund denotes consecutive and possibly discontinuous instances of the activity along the time line (Espinal 1983, Gili y Gaya 1961 for Spanish), as illustrated in (16a,b). There exists a modal reading that may accompany the notion of repetition: dull, funny, unhappy, or tiresome succession of

instances of the same activity. This reading is illustrated in (16c), in which *fer* 'do' is used metaphorically.

- (16) a. Fins que no arribi el nou ordinador, anirem treballant amb el vell.
 while the new computer not arrives, we will go working with the old one
 'Until the new computer arrives, we will work on the old one.'
- b. Anava mirant que no em veiés ningú.
 go-past-imperf looking that me saw no one
 'I made sure (several times) that no one could see me.'
- c. - Què tal? - Vaig fent. - Mentre es pugui anar fent ...
 - how are you ? - I go doing. - as long as one can go doing ...
 - 'How are things going? - They're going (just fine) - That's good enough.'

In sum, the distributive progressive views the development of an event as a process consisting of various stages, or a series of events of the same kind, each instance affecting a different individual in a set, distributed along a time axis. In both cases, the event or series is split up into different items, either subevents or instances of events of the same type.

3.5 A formal treatment of progressive types

So far, we have postulated that the periphrases *estar* and *anar* + gerund realise two kinds of progressive readings. Both predicate an event of a period of time. But, whereas *estar* + gerund views the progressive as a homogeneous state, *anar* + gerund views it distributively, as a series of stages. In Herweg's framework the progressive is viewed as a relation between an event and a period of time. In turn the relation is part of a progressive operator that applies to event-types (see section 2.4). In the case of Catalan and other Romance languages with two progressive notions, stative and distributive, two

relations and two operators must be defined. We begin with the progressive state, realised by *estar* + gerund. We define a relation *PROG-state* :

(*PROG-state*) For all events e and periods of time t :

$\text{PROG state } (e, t) = \text{def } t \text{ included in } \tau(e)$

This definition is identical to the original relation proposed by Herweg. Given that all events have a time of the event expressed by $\tau(e)$, the progressive is defined as the period of time which has the property of being included in it. In other words, the progressive state is predicated of a period of time.

Now the progressive operator can be defined. We simply adopt the definition of the progressive operator from Herweg (section 2.4)

Let E be a variable ranging over event-type predicates.

$\lambda E \lambda t \exists e (E(e) \text{ and } \text{PROG-state } (e, t))$

The formula says that for any event type E and any period of time t there exists an event of the event-type E and that event is in a relation *PROG-states* with the period of time t .

We turn now to the progressive perspective expressed by *anar* + gerund. The situation denoted by a sentence whose predicate occurs in this sequence is a combination of the *aktionsart* of the verb and the aspectual contribution of *anar* + gerund. To summarise section 3.4, if one of the arguments denotes multiple individuals, *anar* + gerund denotes a period of time characterised by the occurrence of the same type of event gradually to the individuals denoted by the argument. The relation between an event and the resulting state is distributive. On the other hand, if none of the arguments denotes multiple individuals, two possibilities arise. First, if the verb has inherent culmination (accomplishment), *anar* + gerund denotes a period of time characterised by the development, stage after stage of an event, allowing for gaps between the various stages

of the process. Secondly, if the event denoted by the predicate has no culmination point (activity), *anar* + gerund denotes the gradual development of the event, or multiple instances of the activity along a time line.

In formal terms, *anar* expresses a property P of a period of time T consisting in the dynamic distribution of stages of an event along a time line, i.e. the relation is not just all times *t* included in $\tau(e)$ (the time of the event) but temporal progress along a sequence T of times, allowing for gaps, in which no two stages are the same. T is not a homogenous period of time, but a line partitioned into smaller stages ordered in a precedence relation. We define a relation (*PROG-distributive*). For all events \underline{e} and sequences of periods of time $T = \{ t_1 < t_2 < t_3 < \dots t_n \}$, such that the sign "<" means precede):

$$\text{PROG-distributive } (e,t) =_{\text{def}} T \text{ included in } \tau(e)$$

The operator *PROG-distributive* is defined as:

$$\lambda E \lambda T \exists e (E(e) \text{ and } \text{PROG-distributive } (e, T))$$

The formula says that for any event type E and any period of time T there exists an event of the event-type E and that event is in a Progressive relation *PROG-distributive* with the period of time T.

3.5.1 Lexical specifications of the progressive periphrases in Catalan

The semantic features of the progressive predictably dictate lexical restrictions on the situation types that on which it can apply. First of all, the predicate must denote an event, as there is an event variable to be instantiated. Secondly, the event must be extended, i.e. have internal structure. Only events which contain temporal development can be in progress. Achievements and punctual events cannot be in progress and thus neither progressive type is grammatical. In the following sentences, *deformar* has an inherent process, i.e. it is an extended event, while *fulminar* is an achievement:

- (17) a. El vent està deformant el xiprer.
'The wind is twisting the cypress.'
- b. * Un llamp està fulminant el xiprer.
'*A thunderbolt is striking the cypress.'
- c. El vent ha anat deformant el xiprer.
'The wind has gradually twisted the cypress.'
- d. * Un llamp ha anat fulminant el xiprer.
'*A thunderbolt has gradually stricken the cypress.'

Achievements and punctual events occur in the progressive only if a period of time can be related to the event as a preparatory process, or if the punctual event occurs several times during the period of time. This is the iterated reading of the progressive.

- (18) a. Aquest estiu els llamps estan fulminant tots els arbres del meu jardí.
'This summer thunderbolts are striking all the trees in my garden.'
- b. Les teules de la teulada han anat caient per culpa de les ventades.
the tiles on the roof have go-pastpart falling due to gusts of wind.
'The tiles on the roof have been blown down by gusts of wind.'

So far, the discussion has generally gone back and forth between the semantic notions stative progressive and distributive progressive and the verbal sequences that realise them. It should be kept in mind, however, that other realisations are possible. For instance, French has no progressive periphrasis corresponding word-to-word to *estar* + gerund or *anar* + gerund. They existed in Old French, but by the beginning of the 17th century the use of *être* + gerund was in decline. *Aller* + gerund has survived into modern French, though pedagogical grammars consider it outdated. Modern French expresses progressive aspect either structurally with the simple forms of the verb paradigm, or lexically by means of adverbial adjuncts expressing rate, degree, etc. As far as the distributive progressive is concerned, it may be realised by the simple forms, as the

imperfective past in (19a), or the indicative present, as in (19b), together with adjuncts such as *progressivement* 'progressively'. I provide glosses both in Catalan and English.

- (19) a. Pendant que l'un des assaillants surveillit les otages, l'autre prenait l'argent.
Mentre un dels atracadors vigilava els hostatges, l'altre anava agafant els diners.
'While one of the assailants watched the hostages, the other one took/was taking the money.'
- b. Certaines zones du quartier se dépeuplent progressivement/peu à peu.
Hi ha sectors del barri que es van despoblant progressivament/poc a poc.
'Certain parts of the neighbourhood are becoming depopulated progressively /little by little.'

Another lexical device of French is the idiom *être + en train de + infinitive*, which stands closest to *estar + gerund*. Like other progressive structures, it may not occur with punctual verbs, as illustrated in (20a) vs (20b).

- (20) a. *Elle est en train de tomber.
'She is in the process of falling.'
- b. Quand elle arrive du travail, il est en train de préparer le dîner.
'When she gets home from work, he is in the process of preparing supper.'

This aspectual idiom (hence lexically specified as a marker of progressive aspect) is shown by certain restrictions it imposes on other elements of the sentence. The first one (which can be considered a selectional restriction) is the fact that the subject must be animate, as illustrated in (21).

- (21) a. *Il est en train de pleuvoir.
'It is raining.'
- b. Il pleut.
'It is raining.'

The second restriction is related to the aspect expressed by the verbal inflectional morphology. The idiom *être en train de* cannot occur in perfective past tenses, as illustrated in (22b). Note also in (22c) the ungrammaticality of the Italian sequence *stare + gerund*, the formal parallel to Catalan *estar + gerund*, in the perfective past:

- (22) a. * Il a été toute la soirée en train de lire le journal.
b. Ha estat llegint el diari tot el vespre.
'He has been reading the newspaper all evening.'
c. * Ieri Giulio stete parlando con Marco (per due hore).
'Yesterday Giulio was speaking with Marco (for two hours).'

The perfective past marker individuates an event or a phase of a state, i.e. a delimited period of time for which a property holds (see chapter 7, appendix 2) and locates it in the past. Occurrence of perfective morphology on a state verb gives temporal limits to the state. For French we can hypothesise that the progressive idiom is a stativiser which disallows any further occurrence of linguistic expressions that may set temporal limits to the progressive state. In Italian, the state denoted by *stare + gerund* cannot be given temporal limits either. Interestingly, in modern Italian *stare* only exists as a progressive auxiliary, not as an independent verb (copula). I ignore why it has been "confined to" the role of (progressive) auxiliary. Squartini (1995:49-50) argues that this is the final step in a path of grammaticalisation followed by a few verbs which started out in Latin denoting location, later formed periphrases with aspectual values in most Romance languages, and finally are becoming functional items. In particular, Squartini claims that *stare* is now a marker of imperfective aspect, i.e. a "free" version of the bound imperfective tense-aspect morpheme. If we accept Squartini's explanation that *stare + gerund* is inherently imperfective this would predict that it can no longer freely occur with any tense-aspect morpheme; rather, its occurrence is limited to those compatible with its inherent aspect. In the terms developed in Herweg (1991a,b), I would express Squartini's intuition more

formally by saying that in Italian and French a progressive state is not quantisable in phases (i.e. not divisible in chunks). In contrast, the Phase operator (which individuates a phase, a chunk of the state, see chapter 2, section 2.4) can be applied to progressive states in Catalan and Spanish. Since perfective and perfect tenses introduce it, only those languages which have progressive states amenable to partition will allow the co-occurrence of progressive periphrases and perfective tenses.

3.6 The lexical entries of *estar* and *anar*

Since the *aktionsart* is preserved when a full verb is used as a progressive verb, it is coherent to propose lexical entries for the progressive verbs which differ minimally from the entries of full verbs. This is the approach that we will take.

The most comprehensive study of the verb *estar* (in Spanish) is Luján (1981). Several Romance languages, in particular those spoken in the Iberian Peninsula, have two copulas, *estar* and *ser*, both rendered in English as 'be'. Elaborating on Hanssen (1913), Luján (1981) explains the semantic distinction expressed by the two verbs in Spanish as an aspectual one: *estar* is perfective, whereas *ser* is imperfective. In her words, "to predicate '*estar* A' of an individual x is to say that x is in the class of individuals bearing the property A at a delimited period of time whose beginning and end are both known or assumed or at least one of them is." (1981:176, my underlining). The copula *ser* also has the capacity for temporal reference: "to predicate '*ser* A' of an individual x is equivalent to expressing that x is in the class of individuals bearing the property A in a period of time whose beginning or end are not assumed and which stretches over a number of delimited time periods". The distinction perfective vs. imperfective proposed by Luján indicates the existence or absence of temporal limits of the period of time of which the property is predicated.

For the purposes of this dissertation, it will be assumed that Luján's definition of *estar* in Spanish can be extended to *estar* as a copula in Catalan, although its distribution with respect to *ser* is much narrower in standard Catalan than it is in Spanish (see Badia i Margarit 1994:270-285) for a discussion on the criteria for a descriptively adequate characterisation of the differences between *ser* and *estar* in Catalan). I will simply provide an example of the difference in interpretation determined by the occurrence of one or the other. As illustrated in (23), both verbs can be followed by a qualifying adjective like *prim* 'thin'.

- (23) a. En Joan és prim.
 'Joan is thin (i.e. has always been thin).'
- b. En Joan està prim.
 'Joan is thin (i.e. he used to be fatter).'

According to Luján's definition of *estar* for Spanish, which we adopt for Catalan, *ser* in (23a) attributes the property be-thin to an individual at an indefinite period of time. The resulting interpretation is that the property is inherent. In contrast, *estar* (23b) attributes the property be-thin to an individual at a definite period of time and the resulting interpretation is that the property is non-inherent, (accidental in traditional grammar terms). In (23) then, perfective vs. imperfective means non-inherent vs. inherent.

Luján proposed a lexical entry for the copula *estar* bearing the feature [+ perfective]. The combination of *estar* copula with an adjective (adjectives are [+ stative] in her theory) denotes a perfective state, represented in Luján (1981:177) as:

[+Adj, +Stative, + Perfective]: A(x) at time t_j

For instance, (23b) is represented as

[+Adj, +Stative, +Perfective]: Thin (John) at time t_j .

There are two ways in which Luján's characterisation of *estar* seems to apply to *estar* + gerund: first of all, the progressive state of an event implies the event has begun. Thus at least one of the temporal limits of the event is known (see underlined portion of Luján's quote). Secondly, the property of being in progress is predicated of a specific period of time, which must be temporally anchored (mostly through temporal expressions, as illustrated in (7)). In this sense, we would not speak about a delimited period of time, but rather of a definite, specific period of time. Interestingly, this allows us to account for the use of the progressive to denote actual events. The progressive inherently anchors the event in progress at a particular time period in the present, or other tenses. In contrast, the simple forms are the unmarked forms to locate events in time, without the extra presence of a lexical element that makes the period of time specific. The lexical entry for *estar* progressive should have the following lexical information:

estar [+ V, + progressive (+homogeneous), + definite]

Note that we have replaced [+perfective] with [+ definite]. The feature [+progressive] allows us to distinguish a non-progressive *estar* from a progressive one, though it carries a certain degree of redundancy. One way to avoid this is to propose that this verb syntactically requires as its complement an event verb marked with the affix *-ing*.

As far as *anar* is concerned, the development of an event is not conceived as a homogeneous state, but is spread out, distributed along the time line, so its lexical entry carries the feature [+ progressive (-homogeneous)] which corresponds to the distributive reading. The lexical entry proposed is:

anar [+V, +progressive (-homogeneous), +definite]

As with *estar*, we may do away with the [+progressive] feature if we include in the syntactic information that the verb must have as its complement an event verb marked with the affix *-ing*.

3.7 Comparing Progressive types: *estar* + gerund and *anar* + gerund

In the previous sections we have analysed the aspectual contribution of the Catalan periphrases with *estar* and *anar* as instantiations of different progressive types. In this section we show how their differences are accountable in terms of the semantic analysis proposed, in particular to the different types of period of time of which the progressive is predicated. Consider the following sentences ((24) is due to Badia i Margarit 1994):

- (24) a. Les campanes estaran tocant tota la tarda.
'The bells will be tolling all afternoon.'
- b. Les campanes aniran tocant tota la tarda.
'The bells will be tolling during the afternoon.'
- (25) a. Els pintors van estar pintant l'aula.
'The painters were painting the classroom.'
- b. Els pintors van anar pintant la sala d'actes.
'The painters were painting the classroom little by little.' or
'The painters eventually painted the classroom.'

The sentences in (24) illustrate the difference between the period of time of which the progressive is predicated: (24a) implies that the bells will be tolling non-stop all afternoon, whereas (24b) allows the inference that the bells will be tolling at various subperiods of time, with gaps in between tolling events. Note that in the translation, I have expressed the difference by means of the adjunct. In (24a) the durational NP adjunct whose determiner is *all* specifies a homogeneous period of time, whereas in (24b) the preposition *during* may be taken in the sense 'at some point in the duration of'. The interval is specified but there is no implication that the event is in progress at every part of it.

The sentences in (25) illustrate another of the differences: the relevant period of time in *anar* + gerund is a sequence of periods of time ordered by a precedence relation. When

the linguistic context highlights the end point of the event, e.g. though tense-aspect marking, *anar* + gerund has a stronger implication that the endpoint was reached, whereas with *estar* the implication is weaker. In (25a) the perfective past tense expresses the occurrence of a phase of the progressive state of the room-painting event. Given that the progressive state does not include the end point of the event, we cannot infer that the painters actually finished painting the room, we only infer that for a delimited period of time in the past they were participants in a painting event. In (25b), in contrast, the period of time of which the distributive progressive is predicated includes the endpoint of the painting event. This is due to the fact that the sequence of which the event is predicated is temporally ordered, so that each stage in the development of the room-painting event is successively predicated of a new part in the sequence. When marked for perfective past, *anar* allows the inclusion of the end point of the event.

3.8 Contrastive notes: On the absence of modal readings for Catalan progressive periphrases.

One of the contrastive differences between English and Catalan is that the special modal and temporal readings of the progressive in English translate into Romance as simple imperfective tenses and not into the progressive sequences *estar* + gerund and *anar* + gerund. The following sentences illustrate the contrast:

1. futurate

- (26) a. Dennis is buying me a new coat for my birthday next week.

*En Dennis m'està comprant un abric pel meu aniversari.

'En Dennis em compra un abric pel meu aniversari.' (present)

- b. The beauty contest was taking place the next day.

* El concurs de bellesa s'estava fent l'endemà.

'El concurs de bellesa es feai /s'havia de fer l'endemà.' (imperfective past)

2. polite offers

(27) I'll be driving into London next week. (if you need a ride)

*La setmana que ve estaré anant en cotxe a Londres.

'La setmana que ve aniré/vaig a Londres (si necessites algú que et porti.)'

The difference must be explained in two directions. First, many uses of the English progressive correspond to uses of the imperfective past morpheme in Romance, an inexistent device for English, whose past tense affix does not overtly realise aspect. The imperfective past denotes lack of completion of an event. This property makes it available for the expression of disadjustments between the Tense specified by the morphology and the time adjuncts, e.g. futurate tenses and polite requests. The progressive periphrases require specific temporal reference. Thus they are not adequate for the expression of temporal disadjustments. Special readings are possible, as long as the temporal anchoring is respected. We saw in section 3.4 that the periphrasis *anar* + gerund in Catalan can give an overtone of nuisance, boredom, or amusement to the repetition of an event. This overtone does not hold for Spanish *ir* + gerund:

(28) a. Què tal? Mira, anem fent. (Catalan)

b. ¿Qué tal? Mira, # vamos haciendo. (Spanish)

How are you? look, go-1stp-pl. doing

'How are things going? They're going.'

A modal reading for the periphrasis may be an extension of a reading allowed by the auxiliary when it functions as a main verb. For instance, in Castilian Spanish, the progressive periphrasis with *estar* maintains the epistemic reading of the future that *estar* allows as a lexical verb (illustrated by (29a) and (29b), respectively). Note also that the simple future does not allow the epistemic reading (29c), whereas the progressive (29a) does. Given that epistemic judgements are always relative to a given time (see chapter 2,

section 2.2), this gives us further evidence of the existence of a temporal variable in the interpretation of the progressive.

- (29) a. No estarás riéndote de mí, ¿verdad?
 not you be-fut. laughing at me, truth?
 'You're not laughing at me, are you?'
- b. No estarás enfermo, ¿verdad?
 not you be-fut. sick, truth?
 You're not sick, are you?
- c. No te reirás de mí, ¿verdad?
 not you laugh-fut. at me, truth?
 'You are not laughing at me, are you?' (intended reading)

Finally, the existence of a modal reading can be purely idiosyncratic, as the imperative value of *estar* + gerund occurring with the aspectual (perfective) adverbial *ya* in Spanish.

- (30) ¡Ya estás quitándote las botas!
 already you are taking off your boots
 'Take off your boots, now!'

3.9 Summary and conclusions

Two varieties of progressive aspect are realised in Catalan (among other Romance languages) by two distinct verbal sequences: *estar* + gerund and *anar* + gerund. In this chapter we have established the lexical content of the progressive verbs *estar* and *anar*. We have shown that *estar* and *anar* determine with their *aktionsart* the kind of period of time of which the development of an event is predicated. *Estar*, a state verb, selects a definite and homogenous period of time, *anar*, lexically an activity or an accomplishment, selects a period of time viewed as a set of subperiods of time ordered by a precedence relation. The lexical entries that we have proposed carry the feature [+

progressive (+homogeneous)] and [+progressive (-homogeneous)], respectively. Another manifestation of the semantic content of these verbs is their choice of predicates that may occur as their complements, the second items of the sequences. Both sequences require events with inherent duration, i.e. events which may be in progress, as shown in the last section. The fact that they have lexical content is considered a major factor in the evaluation of proposals for the syntactic account of progressive periphrases in chapter 6.

Chapter 4

The English Affix *-ing* and the Catalan Affix *-nt*

4.1 Introduction

4.1.1 The semantic content of the affixes *-ing* and *-nt*

Syntactic analyses of the English progressive periphrasis have generally assumed that the affix *-ing* is the progressive affix (see, e.g. Fabb 1983, Zagana 1988, Ouhalla 1991, to be discussed below). In the functional category approach to the Principles and Parameters theory, the assumption has led scholars to postulate the existence of an Aspect functional category headed by the affix *-ing* carrying a feature such as [+progressive] (Ouhalla 1991). In the literature that I have consulted, with the exception of Fabb (1984), little attention has been paid to a fact that pedagogical grammars of English have long attested: that besides the progressive periphrasis, there are other occurrences of a verb (or VP) marked with *-ing* that receive a progressive interpretation, among them prenominal and postnominal *V-ing* adjuncts, and the *V-ing* constructions that follow the DP object of perception verbs.¹ This fact would be of little interest if those occurrences of *V-ing* were always interpreted as expressing events in progress because one could simply assume that *-ing* is a marker of progressive in those structures. Things are more complicated, though. Consider, for instance, the postnominal *V-ing* clauses in (1):

- (1) a. A man muttering strange words came to see you.
 b. A man resembling your brother came to see you.

The event denoted by the VP of the adjunct in (1a) may be interpreted as being in progress: the man was muttering strange words. In contrast, in (1b) the predicate of the adjunct denotes a state, not an event. It cannot be interpreted as in progress; however, the

structure is not ungrammatical. In my opinion, the contrast in (1) illustrates that if we want to provide an account of progressive aspect that generalises across as many *V-ing* structures as possible, we need to study in more detail the content of the affix *-ing* and the semantic content of the corresponding functional category.

This, however, is a serious challenge for linguists because, as Milsark (1988:614) writes, "among the more obvious lexical peculiarities of English is the presence of a number of apparently distinct morphemes that share the phonological shape /-ing/." The affix *-ing* forms gerundives, nominalised verbs, adjectives, mass and count nouns with 'object' or 'material' senses, verbal participles found in small clauses and adjuncts, and expresses progressive aspect. Examples of all those occurrences are given in (2).

- | | | |
|-----|--|-------------------------|
| (2) | a. John enjoyed writing the book. | gerundive |
| | b. Her writing the book so rapidly came as a surprise to us. | gerundive |
| | c. Her rapid writing of the book was astonishing. | nominalised verb |
| | d. an unprepossessing individual. | adjective |
| | e. clothing, fencing, writings | mass / count nouns |
| | f. I noticed John grinning. | verbal participle |
| | g. John was writing a book. | progressive periphrasis |

Given the wide variety of functions exercised by *-ing*, work in both syntax and semantics has focused on subsets of the constructions in which it is involved. Much of the previous work in syntax has dealt with gerundives (constructions which in English occur in the canonical positions of an NP) and their Case-marking peculiarities. Works in syntax that stand out for their attempt at providing comprehensive accounts of gerundives are Reuland (1983) and Milsark (1988). The semantics of *-ing* as a gerund marker is discussed in Chierchia (1984) and Portner (1992). The latter manages to account for an impressive range of data, including the progressive periphrasis and adjuncts to CP (i.e. adverbial adjuncts), although prenominal and postnominal adjuncts are not included.

In this chapter we will analyse the aspectual/temporal content of *-ing* and we attempt to provide a characterisation of it that is sufficiently general, but at the same time, sufficiently constrained. To be more specific, we do not treat *-ing* as a progressive marker, but as the expression of a notion that we call Actuality, which can lead to a progressive interpretation if some (semantic and structural) conditions are satisfied. We concentrate mostly on the occurrence of English *V-ing* in adjunct positions, i.e. cases (2d, f and g), rather than on argument positions, commonly considered gerundives, i.e. case (2a,b), although we consider evidence from gerundive complements of attitude verbs of the type *enjoy*, and of aspectualisers of the type *begin*.

A considerable part of the discussion is based on English data (sections 4.2 and 4.3). Compared to English, Catalan *-nt* occurs in a much narrower range of constructions. To begin with, Catalan gerunds do not have NP-like behaviour; as concerns the expression of progressive aspect, the two most relevant differences between English and Catalan are i) that postnominal *V-nt* adjuncts are ungrammatical, and ii) present participles have lost their 'syntactic' status and have become fixed adjectives. As will be seen in section 4.4, even though the range of *V-nt* structures is considerably narrower than that of English *-ing*, a parallel semantic account can be defended for Catalan.

4.1.2 English: tensed and untensed *-ing*

One of the conditions for a progressive interpretation of *V-ing* is the presence in the sentence of an element with temporal reference. The strongest view is that this item with temporal reference must be the tensed auxiliary *be*. This is the claim put forward in Fabb (1983). Consider the following two *V-ing* structures in (3) (Fabb's own examples):

- (3) a. The running man
b. Running down the road, I fell over.

To Fabb, neither of the *V-ing* words in (3) receives the same interpretation as the progressive periphrasis *be + V-ing*. Since both structures occur in contexts lacking a tense marker, he concludes that tense is fundamental in a progressive interpretation. In particular, Fabb suggests that the affix *-ing* has two meanings:

1. When a *V-ing* form occurs after *be*, *-ing* is the marker of progressive aspect.
2. Without *be*, *-ing* marks [-Tense].²

Fabb links the lack of a progressive reading to the lack of finite morphology to accompany *-ing*. Starting from his examples, however, it is possible to say that some kind of progressive interpretation is given to *running* in (3a), since *the running man* is a definite individual of whom a property is predicated: the property of being the participant of a running event at a given period of time. That the man is a 'running man' is not a permanent property, but one predicated of a particular man at a particular time. If we turn to (3b), we see that the fall occurs during the 'running down the road' event. One can certainly defend that *-ing* contributes to a progressive interpretation of *run*.

Thus, Fabb's own examples illustrate that untensed *-ing* is more than a place holder of the syntactic feature [-Tense]. In the following sections we analyse 'untensed' *-ing* structures, i.e. those not immediately governed by a tensed verb, and 'tensed' occurrences of *V-ing* in order to find out how the presence of tense contributes to a progressive interpretation of a *V-ing* structure.

²A different formulation is that of Stowell (1981), who says that items not marked for tense are not marked

4.2 Untensed V-*ing* structures

4.2.1 Introduction

V-*ing* is found in constructions that occur as adjuncts either to NP/DP or to VP/CP. One of the features that they have in common is that there is no event restriction, i.e. state verbs may occur in these adjuncts. When the verb denotes an event, progressive interpretations are obtained under some conditions which we will discuss. We will argue in this section that the affix *-ing* should not be treated as the progressive affix, but as the realisation of a more general notion.

4.2.2 Adjuncts to NP/DP

4.2.2.1 Prenominal adjuncts

Consider the following sentences:

- (4) a. Running men and women crossed the road.
 b. We must face growing difficulties.
 c. The flying planes reported their observations.

The *-ing* forms in (4) are built on a root that denotes an event. These forms function like adjectives, they predicate a property of the noun in the NP (DP). In particular, the affix *-ing* lexicalises the relation between the event denoted by the root and the external argument of the event verb, denoted by N. The individual denoted by the noun instantiates the event; it is a non-affected participant of it. In (4a) the *men and women* who cross the road are participants in a running event, in (4b) *difficulties* is the theme of an ongoing activity of growing, and in (4c) the *planes* participate in an event of flying.

Parsons (1990:236) suggests that "it is possible to treat [pre-nominal *-ing*] participles, semantically, as adjectives when they occur in these positions". Since adjectives attribute properties to nouns, the question is what property do V-*ing* combinations attribute? Parsons' answer is that present participles in prenominal position realise the in-progress

state of an event, i.e. they realise progressive aspect. He provides an example: in *a glowing coal*, he says, *glowing* denotes the in-progress state of *glow*. His definition of the semantics of the present participle "used" as adjective is the following:

PresP-Adj (Verb) is true of a state *s* if and only if *s* is the In-progress state of an event of which Verb is true.

This definition, however, cannot account for the fact that, unlike what happens in the progressive periphrasis, predicates denoting states can occur prenominally. Let us see some examples:

- (5) a. I lost the matching sock in the laundry room.
b. She will be dearly missed by her loving family.

Given that states cannot be in progress, the question is how to characterise the meaning contribution of *-ing*, i.e. how *-ing* relates a predicate denoting a state to a noun. The answer is that nouns instantiate a state which holds at and/or for an indefinite period of time. Thus in (5a), *matching socks* is the instantiation of a state: socks match each other, in (5b) *loving family* is a family who instantiate the state 'love'.

It may be argued that *matching* and *loving* are adjectives. The distinction between a prenominal participle and an adjective ending in *-ing* is difficult to draw when the root denotes a state. Semantically this is explained by a certain degree of equivalence between a property instantiated for an indefinite period of time (participle) and a permanent property (adjective). A natural consequence seems to be for state *-ing* forms to become adjectives. This process is fully realised in Catalan and Spanish to the extent that the

present participles existing in Latin have now almost disappeared as such. (see discussion in section 4.4.2)³

The affix *-ing* marks the existence of a predication relation between an event or state and an individual. The effect is that the individual denoted by N is an argument of two predicates: the predicate of the adjunct and the predicate of the matrix clause in which the NP occurs. In other words, both verbs assign thematic roles to it. One of the effects of this "argument sharing" is an implicit temporal relation between the two predicates. In particular, the affix *-ing* marks the Actuality of an event or a state at the time period whose reference is specified by the matrix tense. Informally, and using the terminology of Enç (1987), the affix *-ing* is 'anchored' by the matrix tense, i.e. anaphorically related to it. Anchoring is represented as coindexation, as in (6a,b), which correspond to (4c) and (5a), respectively:⁴

- (6) a. [CP [C' [C [TP [T' past_i [VP [DP The fly-ing_i planes]
[V' reported [DP their observations]]]]]]]]
b. [CP [C' [C [TP [T' past_i [VP [NP I [V' lost [DP the matching_i sock]]]]]]]]

A progressive reading of the adjunct may obtain if the event expressed by its predicate is interpreted as cotemporaneous with the event denoted by the predicate of the matrix clause. In (6a) the flying and the reporting both involve *planes*, thus we understand that the reporting and the flying coincide at the relevant time period. What is important to see is that the adjunct depends on the matrix tense for its temporal reference. Even though *-ing* marks the event as actual, it does not locate the event in the present or past. The flying is not interpreted as a present event, but as a past event, because the tense of the matrix clause is past.

³In English Fabb (1984) (cited in Milsark 1988:616) treats forms such as *interesting* and *amazing* as adjectives, and notes that the process of affixation is not fully productive, with verbs of "psych-movement" as the core cases.

⁴Following Koopman and Sportiche (1988), throughout this thesis I will assume that the external argument is VP-internal, i.e. generated as the Specifier of the VP. Throughout this chapter I have obviated the Agreement nodes in the bracketed representations of sentence structure.

If the predicate of the adjunct denotes a state, as in (6b), the affix signals the instantiation of the state at an indefinite period of time. Again, the matrix tense gives temporal reference to the adjunct. When the losing event takes place, the lost item instantiates the property of matching another item. The state may be instantiated for a longer time period, but the temporal interpretation takes as its reference the event of the matrix clause.

4.2.2.2 Postnominal adjuncts

These are structures consisting of a verb bearing the affix *-ing* plus the complements and adjuncts of the verb. Examples are given in (7).

- (7) a. The man [painting the girl] is Brown.
b. Can you see the girl [dancing with your brother]?
c. A man [resembling your brother] came to see us yesterday.

Semantically, the clauses adjoined to the nouns predicate a property of the noun of which they are adjuncts, that is, the set of individuals denoted by the noun is restricted to the subset of those that have the property. The property predicated is not of the kind predicated by the adjective *blue* or *nice*, but is related to an event or state. In particular, when the predicate denotes an event, the noun is a non-affected participant, usually its agent. When the predicate denotes a state, the noun instantiates the state expressed by the verb (the thematic role is usually Theme or Experiencer). The affix *-ing* is the link between the property and the individual of which the property is predicated. For instance in (7a) the property 'Participation in a painting event' is predicated of the individual denoted by *the man*. Similarly in (7b), the property 'Participation in a dancing event' is predicated of the individual denoted by *the girl*. On the other hand, in (7c) the individual denoted by *a man* instantiates the property 'Resemble your brother', which is a state.

By means of *-ing* a property is predicated of an individual expressed by a noun. Being a participant in an event or instantiating a state is a property which is actual relative to a time period. However, since *-ing* lacks temporal reference (it is non finite), it must obtain temporal reference from other elements in the sentence. By default the predicate expressed in the *V-ing* clause is actual at the time expressed by the matrix tense. As with prenominal adjuncts, this seems to be the effect of the fact that the NP is involved in a double relation of predication: it is an argument of the matrix verb and also an argument of the predicate which is expressed in the adjunct clause. Semantically one individual is the argument of two predicates at the same time, or in the terms of the predication theory of Williams (1980, 1994), the argument is coindexed with both predicates. As an adjunct, the *V-ing* clause obtains temporal reference indirectly, without being governed by a tense head, thanks to the implicit simultaneity relation between the predicate of the *V-ing* clause and the matrix predicate, which is given temporal reference by the tense morphology. This is illustrated in (8), where coindexing is meant to represent temporal co-reference. For the moment I assume an adjunct analysis for the projection of *V-ing*, which I call XP. The empty subject is represented as *e*. However, in chapter 5, section 5.5.1, I focus on the syntax of XP and consider the advantages of treating *V-ing* as the complement of DP, based on the analysis of tensed relative clauses made in Kayne (1994).

(8) A man resembling your brother came to see us yesterday.

[CP [C' [C [TP [T' [T past_i] [VP [DP [D' a [NP [NP [N' [N man]]]
[XP e resembl-ing_i; your brother]]] [V' came to see us yesterday_i]]]]]]

The behaviour of the affix *-ing* in the constructions that we have analysed so far (it must be bound by an element with temporal reference) is to some extent the behaviour of an indefinite, in this case a temporal indefinite. In fact, there seem to be many items in natural language grammar that display similar behaviour. Ladusaw (1992) exploits the parallels between the interpretation of Negative Polarity Items (NPIs) and the

interpretation of indefinite NPs. NPIs, e.g. *anybody*, *anything*, must be licensed by the occurrence of an appropriate expression of negation, e.g. *didn't* in the sentence *Maria didn't say anything to anybody*. An indefinite in the sense of Heim (1982), summarised in Ladusaw (1992:7), is "an argument expression with descriptive content but no inherent quantificational or referential force". Indefinites are typically existentially bound whenever they fall in the restriction of an operator. Ladusaw calls the operator that triggers the anchoring or binding of an indefinite the "roof" of the indefinite. Sometimes the roof is also the binder but it in some cases it is not. In the case of NPIs, the roof is the negation operator.

In an analogous fashion, we may account for the interpretation of the affix *-ing* as an element that must be "roofed" by Tense. For instance, untensed adjuncts presumably obtain temporal reference from the matrix tense, which is the "roof" of *-ing*. Support for this idea comes from the fact that another semantic operator might appear between the roof and *-ing* which breaks the co-indexation relation between the matrix tense and the *V-ing* clause. One such operator is the existential-uniqueness quantifier realised by the definite determiner *the* of the DP. In the following subsection I discuss the effects of the presence of a definite determiner in a DP with a *V-ing* adjunct. In addition, I discuss the contrast in the temporal and aspectual interpretation of *V-ing* postnominal clauses obtained with definite DPs vs. bare plural DPs. Such interpretation effects support the idea that *-ing* is a temporal indefinite.

4.2.2.2.1 Influence of (in)definiteness on the temporal and aspectual interpretation of a *V-ing* adjunct

The definite determiner *the* may refer to a specific entity that has been introduced previously in discourse, e.g. in the previous sentence. If the definite DP has a postnominal *V-ing* adjunct, specific temporal reference for the indefinite *-ing* may be given by the tense of the previous sentence rather than the tense of the sentence in which

the V-ing adjunct is embedded. Let us consider an example. The second sentences in (9a,b) contain the same V-ing adjunct; in fact, they are identical. But whereas in (9a) the entity is first introduced in discourse in a sentence marked for past tense, in (9b) the sentence where the entity is first introduced in discourse is marked for present tense. The syntactic structure provided corresponds to the sentence with the postnominal adjunct.

Indices express temporal reference:

- (9) a. There were_i three men at the counter yesterday_i. The man carrying_i a briefcase bought_i a ticket to London.
- [CP [C' C [TP [T' [T past_i]][VP [DP [D' the [NP [NP [N' [N man]]]] [XP e carry-ing_i a briefcase]]] [V' bought a ticket to London]]]]]
- b. There are_i three men at the counter now_i. The man carrying_i a briefcase bought_h a ticket to London.
- [CP [C' C [TP [T' [T past_h]][VP [DP [D' the [NP [N' [N man]]]] [XP e carry-ing_i a briefcase]]] [V' bought a ticket to London]]]]]

In (9a) *-ing* is coindexed with the matrix tense, which in turn has the same index as the previous sentence in discourse, given that the temporal information has not been updated or modified. The definite determiner picks individuals associated to a past time, and the carrying event and the buying event share temporal reference. In (9b), in contrast, *-ing* is given temporal reference by the tense (and temporal adverbial) of the previous sentence, not by the tense of the matrix clause.

The influence of the DP/NP's (in)definiteness on the interpretation of an *-ing* clause goes beyond temporal anchoring. In particular, the interpretation of V-ing postnominal adjuncts may further be specified as progressive or habitual (or generic).⁵ It seems that a

⁵Examples in (10) are from Swan (1980), the English reference grammar book. He points out that this is "a very complex area of English grammar, which is not yet very clearly understood" (p.455).

definite NP tends to induce a progressive reading of an event predicate, whereas an indefinite (or non-specific) NP often prompts a habitual/generic reading of an event predicate. This is illustrated in (10):

- (10) a. Women looking after small children generally get paid about £1.50 an hour.
 (habitual or generic reading)
- b. The woman looking after my small brother gets paid about £1.50 an hour.
 (progressive reading preferred, habitual reading anomalous or *)
- c. The woman who looks after my small brother gets paid about £1.50 an hour.
 (habitual reading)

In (10a) the bare plural NP does not refer to a particular set of individuals. Rather, it may be taken as a predicate that introduces a variable which is bound by a covert generic operator or the overt adverb *generally* (deSwart 1990). The predicate of the *V-ing* adjunct receives a generic interpretation, i.e. each individual of the kind 'woman' is characterised by his or her participation in events of the type 'look-after-small-children'. The affix *-ing* is in the scope of the generic quantifier which apparently binds the time variable that it introduces.

In (10b) the definite DP refers to a specific individual. The predicate of the *V-ing* adjunct receives a progressive reading and disallows a generic reading. Definiteness (and specificity) are interrelated with the existential interpretation of the event denoted by the predicate of the adjunct because what specifies an individual is his or her participation in a particular event which is in progress. Again, the existential-uniqueness quantifier seems to have a double function: it refers to a particular individual which it specifies as the participant in an event. In (10c) the relative clause with a simple tense form allows the non-progressive reading (habitual).

(In)definiteness / (non)specificity effects may be explained as an instance of an operator binding simultaneously two variables: the variable corresponding to the individual, and the variable corresponding to the indefinite period of time expressed by *-ing*. According to Diesing (1992), the generic operator binds times as well as individuals. The existential (and thus progressive) interpretation for a definite DP may be the default one in the absence of a generic operator.

In sum, the affix *-ing* has been characterised in this section as a temporal indefinite: an affix that marks the actuality of an event or state at an indefinite period of time. Specific temporal reference is obtained by default from the tense morphology of the matrix clause. Evidence of the indefinite nature of *-ing* is provided by the effects of DP definiteness on the temporal and aspectual interpretation of a postnominal *V-ing* adjunct. From this study of postnominal adjuncts we can conclude that the affix *-ing* is not exclusively a marker of progressive aspect, although it certainly contributes to a progressive interpretation of an event predicate. When the predicate denotes a state, *-ing* marks the instantiation of the property by the individual in the NP for an indefinite period of time.

4.2.3 Clausal Adjuncts to CP

In this section we discuss the conditions for a progressive interpretation of the predicates of *V-ing* adjuncts to sentences, parallel to postnominal *V-ing* adjuncts in their lack of specific temporal reference. The meaning of *-ing*, actuality, is common to both kinds of structures.

Adjuncts to CP (both adverbial or "free" adjuncts and absolute constructions) are considered subordinate structures with an abstract marker of subordination.⁶ Portner (1992: 319), for instance, treats the *V-ing* phrase as the object of a covert preposition R.

⁶Although adverbial clauses may be set off the matrix clause by intonation, they are not syntactically independent from it, i.e. they are not disjunct constituents (cf. Espinal 1991).

As with nominal adjuncts, the verbs in sentential *V-ing* adjuncts may denote states as well as events. CP adjuncts express a wide range of meanings with respect to the matrix clause, as will be shown below.

When a verb and its arguments denote an event, the semantic relations that can exist between CP adjuncts and absolutes and their matrix proposition include concession, contrast, purpose, manner, example, and time. According to a corpus study on English by Kortmann (1991), it seems that about 30% of adverbial adjuncts and absolutes express only a temporal relationship. The default time relationship is simultaneity or "temporal concomitance" with the nearest reference time, "provided by either time adverbials (...) or a finite verb, unless the co-/context gives rise to inferences leading to an anterior/posterior interpretation" (p. 155). Let us consider the interpretation of events that occur simultaneously with the event in the matrix clause:

- (11) a. Running down the road, I fell over.
b. Painting his daughter, Brown noticed that his hand was shaking.

They may be paraphrased as:

- (12) a. While I was running I fell over.
b. While he was painting his daughter, Brown noticed that his hand was shaking.

The progressive interpretation is compositionally determined by two elements. One, the affix is a marker of actuality; the situation in the adjunct is actual, instantiated, at the reference time of the matrix clause. Secondly, the two situations are semantically related to each other by a simultaneity relation. The structure of a clause containing an adverbial adjunct is provided in (13)⁷:

⁷I am assuming that free adjuncts are adjuncts of the CP projection. Their syntax is discussed more accurately in chapter 6, section 6.5.3.2.

anteriority is lexically restricted to telic predicates (accomplishments and achievements) and to the expression of a prerequisite for the occurrence of the event in the main clause.

(16) Lifting the telephone, she asked for room 1410. (Kortmann 1991)

Predictably, the lack of simultaneity between adjunct and main clause results in the lack of a progressive interpretation for the event in the adjunct clause, as illustrated in (17), which cannot be a paraphrase for (16).

(17) She was lifting the telephone when she asked for room 1410.

Even if a progressive interpretation is disallowed by anteriority, *-ing* marks the event as actual (instantiated) at the time of the event or state expressed by the matrix clause, leaving its temporal interpretation to the semantic relation established between matrix and adjunct.

Posteriority is the most marked of all temporal interpretations, but is nevertheless possible, in particular when the adjunct follows the matrix clause. This phenomenon is called iconicity, i.e. word order or position in the sentence plays a determining role in the interpretation of the time relationship between adjunct and main clause, particularly if there is no natural order for the events denoted by each of them. This is illustrated in the examples (18a) vs. (18b):

- (18) a. Reluctantly Marsha stopped, looking down at the girl who had opened her eyes ... (Arthur Hailey, Hotel).
 b. Looking down at the girl who had opened her eyes, reluctantly Marsha stopped.

In (18a) the stopping event is interpreted as occurring before the looking-down event. If we shift the position of adjunct and matrix clause the order of events follows word order. The looking-down event is interpreted as anterior to or simultaneous with the stopping

event, as in (18b). As far as the aspectual content of the adjuncts, the event is regarded as actual due to the presence of *-ing*.

The fact that clausal *V-ing* adjuncts allow anteriority and posteriority readings suggests that *-ing* is temporally underdetermined. This is probably what Fabb suggested when he proposed the [-Tense] feature for untensed *-ing*. As with prenominal and postnominal adjuncts, *V-ing* obtains temporal reference from an element that has it, usually the tense morphology of the matrix verb.

The *V-ing* structures studied in section 4.2 are adjuncts, and are thus not governed by a lexical item; temporal reference for the event is obtained indirectly (although see section 5.5.1 for an alternative analysis based on a proposal made in Kayne 1994). Another source of progressive interpretations is when event predicates marked for Actuality are complements of other predicates. Apart from the progressive *be*, other verbs in English subcategorise for complement VPs marked with *-ing*. As will be shown in the following section, in those 'tensed' constructions *-ing* is also a marker of Actuality.

4.3. Tensed *V-ing* structures

Among the verbs with lexical content which subcategorise for a *V-ing* complement are perception verbs, aspectual verbs, and attitude verbs like *regret* or *enjoy*. Complements of perception verbs, in addition, are interpreted as progressive states.

4.3.1 *V-ing* clauses as complements of verbs of perception

Among the verbs of perception (whose properties have been discussed in section 2.6.1.2), there are several whose argument structure is similar to that of causative verbs. They have two complements: an internal argument DP and a VP complement that denotes an event. The DP is the understood subject of the VP. English instances are: *feel*, *hear*,

notice, observe, overhear, perceive, see, smell, spot, spy, watch (from Quirk, et. al. 1985). When the complement is a *V-ing* form, its interpretation is the progressive state of an event, while a base form *V* (without *to*) refers to the whole event, either as completed or merely naming it.

- (19) a. I heard the child crying. (actual on-going event)
 b. I heard the child cry. (name of the event, or complete occurrence)

The verbal complement cannot denote a state, something to be expected, if the verb selects a perceived event. There are other verbs with similar features, for example, the "verbs of encounter": *catch, discover, find, detect, glimpse, leave*. Verbs of encounter are only grammatical with a *V-ing* complement. This is presumably due to the lexical selection of these verbs. For someone to catch or discover someone doing something, the event must be in progress. This can be taken to reinforce the idea that the forms in *-ing* are interpreted progressively.

- (20) a. Al caught Bill playing the saxophone. (actual on-going event)
 b. *Al caught Bill play the saxophone. (name of the event)

As in the case of postnominal *V-ing* adjuncts, in perception constructions two predicates share an argument. Argument sharing may lead to an interpretation of temporal coincidence. But there is an important difference, namely that the *V-ing* itself is an argument of the matrix verb. The progressive relation between a perception event and a perceived event is determined lexically. Consequently, the *V-ing* complement can be temporally anchored only by the verb which selects it.

I provide a bracketed phrase structure corresponding to (19a) in (21). There temporal co-reference is represented by coindexation between the tense head and the affix. One of the relevant issues for the syntax of perception clauses is the place where the shared argument is generated. For the purposes of this chapter, i.e. arguing that *-ing* is a marker

of actuality, it suffices to assume that it is the specifier of the lower phrase, informally the subject of the perceived event verb *cry* rather than the object of the perception event *hear*. The syntax of perception clauses of this type is further discussed in chapter 5, section 5.5.3.

- (21) [CP [C' [C] [TP [T' [T past_i] [VP [NP I] [V' [V heard] [XP [VP [DP the child] [V' [V cry-ing _i]]]]]]]]]

Compared to the structures in (9), we notice that in (21) a definite determiner does not interfere with the anchoring of *V-ing* by the matrix verb. This is predicted by this analysis because *V-ing* is not treated as an adjunct to the DP *the child*, but as the head of the complement of the matrix verb *hear*.

4.3.2 Aspectual verbs and attitude verbs

Another group of verbs which take a verb complement are aspectualisers, verbs like *begin*, *start*, *continue*, *finish*, *end*, etc., which express focus on parts of an event. Some aspectualisers, such as *begin*, *start*, *continue*, and *cease*, take both complements in the form of *V-ing* and *to-V*, as in (22), while some only admit *V-ing*, e.g. *finish*, *go on*, *keep*, *stop*, as in (23).

- (22) a. They began to argue.
 b. They began arguing.
 c. They started to complain.
 d. They started complaining.
- (23) a. * They finished to talk.
 b. They finished talking.

According to Freed (1979: 152), "in general, *V-ing* forms refer to a single event that is in progress, an actual event which has an unspecified duration. In contrast, *to*-infinitive refers to series of events stretching in the past or future, unrealised events." She noted

that there is an implication relation between *They finished talking* and *They were talking*, or between *They began talking* and *They were talking*, although there is no progressive interpretation as part of the denotation of *begin* and *finish*. For example, *finish + V-ing* denotes the final stage of the event denoted by the complement verb, with the implication that the event was in progress before. *Begin + V-ing* denotes the initial part of the event up to the development phase of that event. The associated implication is that the event is in progress from the beginning onwards.

There are verbs which require actual situations as complements but which do not prompt progressive readings of those situations. As Freed notes, her generalisation concerning aspectualisers can be extended to verbs of different meanings, like *remember*, which takes situations as complements. The meaning alternation conveyed by the choice *V-ing* and *to-V* is often described as temporal: the *V-ing* form is interpreted as past, while the *to-V* complement is interpreted as future.

- (24) a. I remembered closing the window.
b. I remembered to close the window.

However, a more accurate description is that the complement in *V-ing* denotes an actual situation in relation to the tense that anchors *-ing*, while the situation is unrealised when the complement is a *to-V* form.

Freed suggests that her view of the difference between *V-ing* and *to-V* accounts for verbs which, without being aspectual, show the same pattern of choice of complements. For instance, the verbs *hope* and *want* are verbs with a "future" orientation which only allow a *to-V* complement. Freed cites Bolinger (1968), who made a distinction between verbs denoting actualities or "possibilities conceived as actualities" (such as *detest*, *enjoy*, *regret*, *approve*) and verbs denoting "unrealised possibilities" (such as *wish*,

want, hope, command).⁸ The semantic distinction has a correspondence with the form of their complements: the former have *V-ing* complements; the latter have *to-V* complements.⁹

Actuality is shaped by the environment in which it occurs and it is very sensitive to temporal distinctions. An example of this is the group of verbs mentioned above. Once verbs are identified as expressing actualities, they can be further classified according to the temporal interpretation they impose on their actual complements. Portner (1993) distinguishes two kinds, illustrated by the verbs *enjoy* and *regret*, respectively. The verbs of the *enjoy* class denote "an attitude towards an event which temporally overlaps the enjoyment", while verbs of the *regret* type "denote an attitude which is typically towards a past event" (p. 404). Example sentences:

- (25) a. Sue enjoyed painting a portrait of Phil.
 b. Sue regretted painting a portrait of Phil. [Portner's (22) and (23)]

Portner argues that the event time of these verbs provides a point of view on the event time of their complements. When both event times overlap, *-ing* provides an internal perspective, i.e. an imperfective interpretation. If the matrix verb specifies that the event time of the gerund precedes its own event time, then there is an external perspective on the gerund's event, i.e. a perfective interpretation.

Using our own terms, the lexical content of verbs that require other verbs as complements may specify the temporal relation between the two situations: the attitude situation and the situation denoted by the complement. Regardless of whether the event is past or present at the time of the regretting or enjoying, respectively, both refer to actual

⁸Other verbs with complements only in *V-ing* are *deny, dislike, enjoy, fancy, mind, miss, put off, risk, suggest*. It is possible to say that although they do not express actual events, they express possibilities conceived as actualities.

⁹There are verbs whose complement can take any of the two forms with apparently no meaning difference: *delay, hate, intend, like, love, neglect, omit, plan, prefer*. This, however, does not invalidate the claim that *-ing* is the marker of actual situations.

events, not to unrealised ones. Their temporal reference is obtained in the same way, i.e. from the matrix tense.

- (26) a.[CP [TP Past_i [VP [DP Sue] [V' enjoy [XP e paint-ing_i a portrait of Phil]]]]]
 b.[CP [TP Past_i [VP [DP Sue] [V' regret [XP e paint-ing_i a portrait of Phil]]]]]

Independently from the syntactic coindexation relations, the lexical content of *enjoy* allows temporal coincidence between the time of enjoyment and the time of painting in (26a). In (26b) the lexical content of *regret* shifts the time of painting to a period of time prior to the time of regretting. Note that for the same reason, *regret* allows the occurrence of its complement in the perfect form (*have* + past participle), as (27b) illustrates, whereas *enjoy* disallows it (see (27b)):

- (27) a. *Sue enjoyed having painted a portrait of Phil.
 b. Sue regretted having painted a portrait of Phil.

If we assume that the perfect denotes the resulting state of an event, the state that holds after its culmination (following Moens and Steedman 1988 or Parsons 1990), the complement of (27b) *having painted ...* denotes the actuality of that state, instantiated at the time specified by the matrix verb *regretted*. The lexical meaning of *regret* precisely combines the past occurrence of the event expressed by *paint ...* with the actuality of its consequent state.

4.4 The Catalan affix *-nt*

4.4.1 Introduction

The phonological shape *-nt* is shared in Catalan by the gerund and the present participle of verbs.¹⁰ There are fewer types of *V-nt* structures in Catalan than in English, but I will argue that the affix is a marker of Actuality.

4.4.2 Present participles- Adjectives

Catalan present participles are no longer productive forms in the language as they are in English, they have become lexically fixed as adjectives. For instance, the *V-ing* adjuncts of two of the English sentences in (4) above, repeated here as (28) cannot be rendered by an *-nt* present participle, whereas the adjunct in the second one is grammatical.

- (28) a. Running men and women crossed the road.
 a'. * Homes i dones corrents van travessar la carretera.
 b. We must face growing difficulties.
 b'. Ens hem d'enfrontar amb dificultats creixents.
 c. The flying planes reported their observations.
 c'. * Els avions volants van informar de les seves observacions.

Adjectives like *creixent* 'growing' are perceived by descriptive grammarians as "fossilised" Latin present participles. Fabra (1956:134-135), for instance, provides an exhaustive list, among them: *tibant* 'tight', *amargant* 'bitter', *picant* 'hot, spicy', *pesant* 'heavy', *sorprenent* 'surprising', *resplendent* 'shining, shiny'. The meaning of these adjectives can be paraphrased as "the predication expressed by *que + V*" (Cabr e and Rigau 1986: 87), which translates as 'which/who + V-3rd person singular'. In other words, the noun of which the property denoted by the *V-nt* adjective is predicated is a

¹⁰The forms of the gerund (non-finite verbal form) and the "active" or present participle (derived from the Latin present participle) differ for a few verbs of the second conjugation class and for all those of the third conjugation class. The difference lies in the thematic vowel (the vowel occurring before *-nt*). An example from the third conjugation class would be *bull-e-nt* ("active" participle) vs. *bull-i-nt* (gerund), forms of the verb *bullir* 'to boil'.

non-affected participant in the event expressed by V.¹¹ Temporally speaking, an *-nt* adjective is underspecified. The temporal interpretation of *-nt* in these adjectives may be specified by the matrix verb. For instance, there exists a small number of present participles with an interpretation that comes close to a progressive reading, although with rather fixed meanings:

- (29) a. Els sindicats convocants demanen negociar directament amb la ministra.
 'The unions calling [the strike] demand direct negotiation with the minister.'
- b. El president sortint va pronunciar unes paraules d'agraïment.
 'The president leaving [office] pronounced a few words of acknowledgement.'
- c. Els atletes participants es neguen a portar publicitat a les samarretes.
 'The athletes participating [in the race] refused to wear ads on their t-shirts.'

The property predicated by the *V-nt* items holds for a particular period of time and is related to an event in which the noun participates. Thus at a particular time, known from the previous sentences or assumed by the speaker, the unions are calling (the strike) (29a), the president is leaving (office) (29b), the athletes are participating (in a race) (29c). As in the case of English pre- and post-modifiers with the form *V-ing*, the progressive interpretation obtains if a simultaneity relation is possible between the event denoted by the root of the *-nt* adjective and the event or state denoted by the matrix predicate. Specification of temporal reference by the matrix verb is represented as coindexation:

- (30) [CP [TP Present_i [VP [DP Els sindicats convocants_i] [V' demanen
 [VP negociar directament amb la ministra]]]]]]

¹¹Cabré and Rigau use the label 'agentive'. I consider it to be misleading, given that the thematic role of the argument realised by the noun is not always Agent. For instance, in *bella dorment* 'sleeping beauty', it can be argued that sleeping does not have an agent, but a theme.

The actuality interpretation is also possible for nouns formed by affixing *-nt* to a verb.

The noun expresses the external argument of the verb. Examples are provided in (31).

- (31) a. els manifestants 'the demonstrators'
 b. les aspirants 'the applicants'
 c. els contribuents 'the tax payer= economic status'
 d. les ajudants 'the assistants= job'

Participating in an event is not an inherent property of the individual, since the property is predicated for a particular time. Thus, demonstrators are so while they are demonstrating, applicants are so while they are applying for something. Sometimes the verb expresses an event with longer duration, and participating in an event is conceived as a permanent property of the individual, like being a tax payer or a teaching assistant, in (31b) and (31d).

Up to now I have dealt with one-word adjuncts in *-nt*. As far as clausal DP adjuncts are concerned, in Catalan (like in other Romance languages) the present participle can no longer perform its verbal function; it cannot head a clause. (32) illustrates the contrast between Catalan and English.

- (32) a. *L' atleta corrent per la pista anirà a Atlanta.
 'The athlete running on the track will go to Atlanta.'
 b. *L'home duent un maletí va comprar un bitllet per a Londres.
 'The man carrying a briefcase bought a ticket to London.'

The impossibility to occur in clausal adjuncts suggests that it is no longer a non-finite tense marker, i.e. an inflectional morpheme, but a derivational suffix that forms adjectives. In syntax terms, *-nt* builds words with features [+V, +N] rather than [+V, -N].

4.4.3 Gerunds as Adjuncts to CP

Like in English, the relation between adjunct and matrix clause may be mediated by an overt complementiser, as in (33a,b) or an abstract complementiser, as in (33c). The range of meanings is as wide as in English. A progressive interpretation for the event denoted by the predicate of the adjunct is obtained if there is a simultaneity relation between it and the event or state denoted by the predicate of the matrix clause. For instance, the complementiser *tot* 'while' contributes to a simultaneity relation. When the verb in the adjunct denotes a state, the adjunct is understood as expressing the cause of the event in the matrix clause.

- (33) a. Anem-hi tot passejant
 Let's go there while walking. (simultaneity + manner)
- b. Tot passejant, vaig trobar la Fina amb el nen.
 While walking, I ran into Fina and the baby. (simultaneity)
- c. Veient que tots volien sopar a les nou, el pare va fer el sopar més aviat.
 Seeing that they all wanted to have dinner at nine, father got it ready earlier.
 (cause)

Apart from simultaneity, anteriority is a possible interpretation for the adjunct, if the adjunct iconically occurs before the matrix. Iconical order suggests a sequence of actualisation of events. The event in the matrix clause occurs only after the event in the matrix has become actual. More specifically, the event in the adjunct is normally the preparation for the event expressed in the matrix clause. The actualisation of the preparation emphasises the event in the matrix clause, adding an overtone of 'momentous situation'. This use is therefore quite literary. It is illustrated in (34a). A posteriority interpretation is not allowed, even in iconical order, as illustrated in (34b, c).

- (34) a. Després del sopar l'anfitrió va omplir les copes dels convidats, i, aixecant la seva, va dir: 'Amics, vull que brindem pel futur.' (anteriority, iconical)

'After dinner, the host filled the guests' glasses and, raising his own, said:

"Friends, I want to propose a toast for the future." '

- b. *Va caure per la finestra, trencant-se la cama.

'He fell from the window, breaking his leg.'

- c. *El soldat va disparar un tret, foradant una roda del jeep.

'The soldier shot once, making a hole on the jeeps' tire.'

4.4.4 Lexical choice: verbs of perception, encounter, and representation

In clauses whose predicate is a verb of perception (or encounter, or representation) the verb is followed by its internal argument (the DP which expresses the individual perceived) which may in turn be followed by a gerund clause whose predicate denotes an event. Since the perception event and the perceived event are temporally coextensive, a progressive interpretation obtains. The object NP of the perception event is the understood subject of the perceived event. Instances are *veure*, *mirar*, *sentir*, *notar*, *observar*, *contemplar*, *distingir*, *recordar*, *trobar*, *dibuixar*, *pintar*, *gravar*, *descriure*, *representar* (Badia i Margarit 1994:679), *atrapar*, *enxampar*. Sample sentences are given in (35).

- (35) a. Uns periodistes atraparen un conegut coronel espiant la meva veïna.

'Some journalists caught a well-known coronel spying on my neighbour.'

- b. T'han fotografiat badallant.

'They took a picture of you yawning.'

There is a certain parallel with English in that both the infinitive and the gerund may occur with perception verbs (see 36a,b). As in English, the verbs of encounter only allow the *-nt* adjunct and thus the progressive interpretation (see 36c,d).

- (36) a. Voldria veure'l actuar.

'I would like to see him perform.'

- b. Voldria veure'l actuant.
I would like to see him performing.
- c. *L'han enxampat robar un llibre.
*They have caught him steal a book.
- d. L'han exampat robant un llibre.
They have caught him stealing a book.

Temporal reference for *-nt* is provided by the matrix tense. The structure of a sentence like (35a) may be represented as in (37):

- (37) [CP [C' [C [TP[T' [T past_i] [VP [DP uns periodistes] [V' atraparen [DP un [NP [NP conegut coronel] [XP [VP e [V' [V espiant_i] [DP la meva veïna]]]]]]]]]]]]]]]

We cannot assume for the Catalan perception constructions the same structure as for the parallel English construction, since there is a significant difference between them. Namely, gerunds cannot nominalise events in Catalan and thus do not occur in argument positions. Since the embedded *V-nt* is a gerund we can hardly assume it to be an argument of the perception verb. Rather, I will consider it an obligatory adjunct of the internal argument. There are two further arguments in favour of this position. First of all, for a verb such as *atrapar* 'to catch' meaning varies to a certain extent according to the obligatoriness of the object's adjunct. Thus we have a transitive *atrapar* denoting the physical act of seizing the object, with no obligatory adjunct for it, and transitive *atrapar* with obligatory adjunct, when the subject does not physically seize the object, but perceives him/her at the moment when he or she is involved in the event expressed by the adjunct. Both meanings are illustrated in (38):

- (38) a. Els soldats bosnis van atrapar soldats serbis i els van fer presoners.
'Bosnian soldiers caught serbian soldiers and made them their prisoners.'
- b. Els soldats bosnis van atrapar un soldat serbi robant pa sec.
'Bosnian soldiers caught a serbian soldier stealing stale bread.'

Secondly, and finally, other structures in Catalan seem to involve obligatory adjuncts. One instance is middle constructions of the type "The door opens easily". In middle constructions, the agent role is absorbed (as indicated by the presence of *es*), which seems to make the presence of an agent-oriented adjunct necessary:

- (39) a. Aquest pa es talla fàcilment.
 'This bread cuts easily.'
 b. ?Aquest pa es talla.
 ?'This bread cuts.'
 c. Aquest problema es fa ràpid.
 'This problem solves fast.'
 d. ?Aquest problema es fa.
 ?'This problem solves.'

Given that obligatory adjuncts must be independently postulated for Catalan, the account proposed for perception clauses seems plausible, at least in principle.

We have presented a number of Catalan structures in which the affix *-nt* is a marker of actuality. Progressive interpretations are possible if the verb on which *-ing* affixes denotes an event, and they are favoured by a simultaneity relation with another event or a state, expressed, for instance, by the predicate of the matrix clause.

4.5 Summary and Conclusions

We started this chapter questioning Fabb (1983)'s proposal that the English affix *-ing* is a marker of progressive aspect if and only if it occurs when immediately dominated by a tense marker, in particular as part of the sequence *be* + V-*ing*. From our study of the semantic content of the affixes *-ing* / *-nt* in a variety of structures, and the conditions for a

progressive interpretation of a *V-ing/V-nt* structure, we can conclude that the affix *-ing/-nt* behaves like a temporal indefinite: it introduces a period of time in the content of the sentence, and marks the event or state expressed by its root as actual at that period of time, but lacks temporal reference. Like other indefinites in natural language; *-ing* requires the presence of a roof (an operator which provides temporal reference). The semantic content of *-ing/-nt* does not forbid its affixation to a state-denoting verb. I have called the semantic content of the indefinite *-ing / -nt* *Actuality*, since that is the relation common to all occurrences of *V-ing/-nt* that we have studied. *Actuality* is a defective combination of aspect and tense: it is different from progressive aspect, because states can be actual though not in progress, but at the same time it implies the instantiation of an event or state at a certain period of time; it is not present tense, because it does not involve specific temporal location, but it does locate the event or state as relevant with respect to a specific period of time.

Temporal reference and a simultaneity relation with another predicate are essential for a progressive interpretation of a verb denoting an event and bearing the affix *-ing*. The 'untensed *V-ing* structures' in (2) allow progressive interpretations of the events that they express because they are roofed by the matrix verb. In the case of nominal adjuncts, two properties are predicated of an individual at the time specified by the matrix clause, and this simultaneity relation may result in the progressive reading of the event denoted by the predicate of the adjunct. In the case of clausal *V-ing* adjuncts to VP/CP, they obtain specific temporal reference from the matrix clause. A progressive interpretation requires an implicit or explicit simultaneity relation between the event denoted by the predicate of the adjunct and the event or state denoted by the predicate of the matrix clause. The conditions for a progressive interpretation do not vary substantially when *V-ing* structures are complements as opposed to adjuncts. Thus, the complements of verbs of perception and encounter such as *see* and *catch*, both in English and Catalan and, to a certain extent, the predicates that occur as complements of aspectualisers such as *begin*

and of verbs of attitude such as *enjoy*, are interpreted as progressive states because their heads establish a simultaneity relation with them.

Knowing in more detail not only the semantic content of *-ing/-nt* but also the common features of *V-ing* progressive structures, we turn now to the syntax of progressive aspect.

Chapter 5

A Grammar of the English Progressive Structures

5.1 Introduction

This chapter focuses on three aspects of the syntax of progressive structures: 1) the functional category realised by *-ing* in the progressive periphrasis, 2) the functional category realised by *-ing* in untensed structures, and 3) the syntactic status of the verb *be* in the progressive periphrasis. Focusing on the three issues at the same time is a complex task. When I was reading the literature on the subject, the fragmentation of the data was a great obstacle, since each proposal was very selective in the phenomena it intended to explain. The criterion I followed was to evaluate different syntactic proposals in the light of their semantic adequacy and their extendability to phenomena involving events and progressive aspect.

One of the debates renewed with the development of the functional category approach is the syntactic status of auxiliaries. The debate about the nature of auxiliaries concerns the nature of VP and the relations existing between a verb and its complements.¹ Thus, the functional approach to the progressive proposed by Ouhalla (1991) --to be reviewed in section 5.2.1-- is based on the theoretical assumption that a VP is the projection of a predicate, and that only those elements that are part of the thematic structure of a verb can be complements of a verb. Ouhalla (1991:3) defines the VP as the predicate phrase, the "domain of thematic elements, more precisely, theta-assigning and theta-receiving elements". For this approach auxiliary verbs must be heads of functional projections. In contrast, for those who defend the hypothesis that auxiliaries head VPs (i.e. that *be* is a V that takes a VP-*ing* as its complement), the problem is that the complement VP is not

¹A brief and therefore useful survey of the configurations proposed for auxiliaries since the beginnings of generative grammar can be found in Llinàs (1990:95-102).

really an argument of the auxiliary in the same way as an NP is an argument of a transitive V, for example, i.e. no thematic relationship holds between *be* and the VP complement. Recent approaches have looked for some sort of subcategorisation relation that may hold between auxiliaries and lexical verbs so that lexical VPs can be arguments of auxiliaries.

Two of the answers given in the late eighties coincided in considering auxiliaries as verbs which assign or transmit temporal information to their subcategorised complements. Thus in Guéron and Hoekstra (1988), auxiliaries Tense-mark (T-mark) lexical verbs, just as lexical verbs Case-mark their NP arguments. T-marking (the assignment of a T-index or temporal index) is the mechanism that locates events in time. Lexical verbs absorb the tense value assigned to them by the tense head or by the auxiliary, if there is one. An alternative view is proposed by Zagana (1988, 1992), an instance of the fascination that Reichenbach's (1947) relational approach to tense (inspired by previous work by Jespersen) has exerted on numerous GB syntacticians, especially after Hornstein (1977, 1990)'s re-elaboration. Given that Zagana deals specifically with the progressive not only in English but also in Spanish, I have reviewed her work in section 5.3.

The analysis adopted for the English progressive periphrasis in this dissertation tries to incorporate the best of all previous proposals. It is presented in section 5.4, and is followed by several considerations concerning the syntax of other *V-ing* structures with progressive interpretations.

5.2 *-ing* as the realisation of a functional category

According to the criteria presented in the three of the "founding" references of the Functional Category approach (Fukui and Speas 1986, Abney 1987, Ouhalla 1991), the

category instantiated by the affix *ing* of the progressive structures qualifies as a functional category. The following is a list of criteria, each with a brief comment on the status of *-ing*.

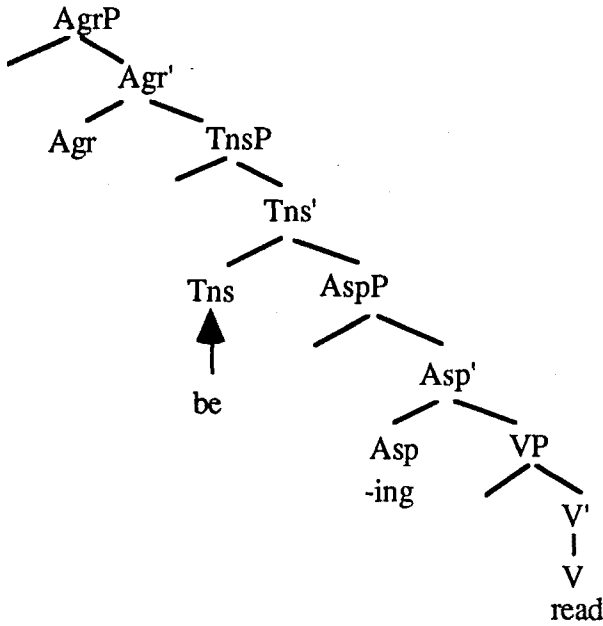
- i. Functional categories are closed lexical classes. *-ing* is a closed-class item.
- ii. They do not have theta-grids, and have only one complement. *-ing* has one complement, a VP.
- iii. They have c-selectional properties (selection in terms of syntactic categories of their complements). *-ing* selects a VP.
- iv. They lack descriptive content, though they contribute to the semantics of the phrase by regulating or contributing to the interpretation of their complement. *-ing* denotes actuality of the event or state expressed by the verb on which it attaches.
- v. They have m-selectional properties (morphological selection). *-ing* attaches to a [+V] lexical item.

The affix *-ing* in the structures analysed in chapter 4 fulfills the above criteria and may thus be considered the realisation of a functional head. There is one more criterion left, but here there is discrepancy between authors. Fukui and Speas (1986) consider that functional categories are not projections of $[\pm N, \pm V]$, whereas Ouhalla claims the opposite: they are specified for categorial features $[\pm N, \pm V]$. I cannot argue for or against either view directly, since this does not fall within the immediate scope of this dissertation, though I will touch upon the topic of the category specification of *-ing*.

5.2.1 *-ing* as the head of Aspect Phrase. Ouhalla (1991)

According to Ouhalla (1991), in the progressive periphrasis, the affix *-ing* is the head of the Aspect projection. To acquire progressive aspect, the main verb moves to Asp and attaches to *-ing*. The auxiliary *be* plays a supporting role for the Tense and Agr morphemes. The structure is the following (p. 80):

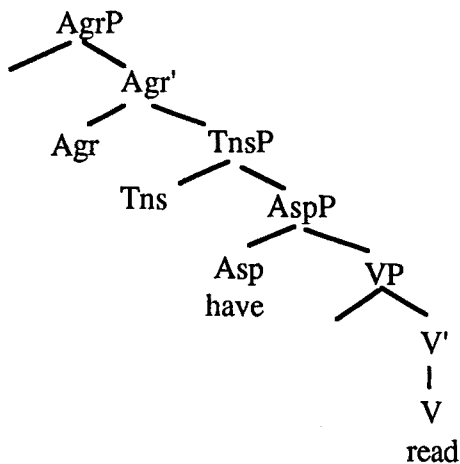
(1)



The arrow indicates that *be* is not base generated but rather inserted under Tns at S-structure. This proposal is a consequence of his theory of Aspect, understood as part of a broader theory of periphrases. To be more specific, the observation that Ouhalla tries to explain is that in English when a verb is marked for Tense and Aspect, both morphemes cannot occur on the verb, i.e. once a main verb has picked up Aspect, it cannot go on further up and pick tense. The progressive is an example. Once the lexical verb attaches to *-ing*, the affixation process cannot continue, and Tense and Agreement have to be discharged in some other way, namely *be*-insertion. Why *be* ? According to Ouhalla, *be* lacks categorial selection properties, given that almost any category can follow it (NP, PP, AP, CP, ADVP, VP).

The perfect periphrasis is another example (Ouhalla 1991: 82).

(2)



Have carries the aspectual feature of the perfect (note that no functional status is given to the past participle morpheme). *Have* is thus base-generated under the Asp node. This is justified by the observation that *have* has strict selectional properties (only a past participle VP can appear after it). Asp *have* moves and attaches to Tns and later Agr, thus they never occur on the lexical verb.

Although both are heads of Asp, *have* and *-ing* differ in their movement possibilities. *-ing* cannot move to Tns, whereas *have* does move to Tns. How is this explained? Ouhalla's hypothesis is that, since both are heads of an aspectual projection, the difference must be in the categorial selection, i.e. *have* must be "compatible" with tense, and *-ing* probably is not. Ouhalla proposes a parametrised Aspect category: Aspect may be [+N] or [+V]. In English, the affix *-ing* is nominal aspect, the auxiliary *have* is verbal aspect. This means that the parameter can have both settings realised in one language.

Assuming that the functional category Tns selects verbal categories, the consequence is that if Asp is verbal, it can move up to get Tns, and Agr. This is the case of the perfect *have*. In *have read*, *have* realises Asp+Tns+Agr, and *read* is V. On the other hand, if Asp is nominal, then V+Asp is nominal and cannot move to TNS. For this reason,

Ouhalla argues, *be*-support is required. Thus in *is reading*, *is* realises *be* + Tns + Agr, and *reading* is V+ Asp.

The hypothesis of a parametrised Asp is crucially dependent on the argument that the affix *-ing* has nominal nature. Certainly this element appears in gerundive constructions (e.g. "John's kicking of the ball") which have distributional properties similar to those of simple noun phrases, though no progressive value. Ouhalla suggests that in both cases *-ing* is the head of an Asp category and that "in sentential clauses the Asp element is specified positively for the aspect feature, whereas in gerunds it is specified negatively, hence the difference in aspectual reading" (p. 81). While it may be argued that *-ing* is [+N] in gerunds (see Reuland 1983), there is by no means agreement among scholars on the category specification of the affix, or even whether it is categorially specified. For instance, Milsark (1988) argues that the best way to account for the wide range of *-ing* constructions is to consider it an "opaque category-neutral affix". As Milsark observes, the morpheme *-ing* suffixes to verbs, and the resulting complex lexical item, instead of being transparent to the category of the stem, may be of any category: verb, noun, adjective, preposition. In his opinion (Milsark, 1988:616), category-neutral may be understood as having the features [N] and [V], but with no values for these features specified lexically. Thus "*-ing* would be inserted freely into head positions of syntactic structures, acquiring whatever categorial features are required in the positions they occupied".

Another counterargument to Ouhalla's proposal that *-ing* is [+N] (and not [+V]) is provided by participles. Participles occur in adjunct positions, which are the positions where adjectives occur. Given that adjectives are [+N,+V], we could claim that *-ing* realises both values [+N] and [+V] at the same time, or that there exists more than one affix *-ing*. Ouhalla's proposal severely limits the possibilities of generalising the

sequence *be* + *V-ing*. But what makes Ouhalla's proposal of a parametrised version of Aspect especially objectionable is the subsequent need to postulate the mechanism of insertion of the 'auxiliary' *be* at S-structure. This is the topic of next subsection.

5.2.1.1 Against *be* - support at S-structure

Ouhalla argues that *be* does not have c-selection properties, based on the fact that "any category can appear following it". A way to counter this argument is to propose the existence of at least three different *bes*: copula *be*, passive auxiliary *be*, and progressive *be*. The latter has strict c-selection properties: it allows only a VP marked with *-ing*, or alternatively, an aspectual phrase. Progressive *be* could then be generated at D-structure, which would explain the semantic selection for event verbs. Note that the affix *-ing* does not by itself discard state verbs, as has been vastly illustrated in chapter 4.

Furthermore, Ouhalla's own arguments backing the proposal that *be* is inserted for tense support are not quite convincing. The evidence adduced for tense support comes from crosslinguistic facts that he illustrates with only a few examples, in particular from Swahili and Welsh, which I will examine below. Essentially his argument is that in several unrelated languages, the first items in progressive periphrases (the ones that carry the tense morpheme) are dummies, i.e. lexically empty. Dummies cannot be base-generated, and so *be*-support must be a possible mechanism across languages.

According to the sentences and their glosses, both languages have periphrastic constructions to express the perfect and the progressive. The non-lexical element of the periphrases is the same item for both aspects. Let us see the Swahili data presented by Ouhalla in detail. In Swahili, the verb *kuwa*, which Ouhalla translates as 'be', is used as an auxiliary in two tenses: (1) the future perfect, which involves a future tense morpheme and a perfect morpheme, (2) the past progressive, which involves a past tense

morpheme and a "CONT" (we assume CONT to mean 'continuous', another term for progressive) morpheme. (Ouhalla's (31b, c))

- (3) a. Juma a-ta-kuwa a-me-pika chakula.
 Juma 1AGR-FUT-be 1AGR-PERF-cook food
 'Juma will have cooked food'
- b. Juma a-li-kuwa a-ki-pika-chakula.
 Juma 1AGR-PAST-be 1AGR-CONT-cook food.
 'Juma was cooking food.'

kuwa is thus the dummy element for the progressive as well as for the perfect. Unfortunately, because Ouhalla does not provide a sentence involving the perfect and the progressive, i.e. the Swahili sentence for 'Juma has/had been cooking food', we do not know how the different morphemes would be arranged, and whether there would have been two instances of *kuwa*.

Similarly, in Welsh only one dummy, the verb *bodd*, is used for all aspectual periphrases in general. Given that the dummy is not exclusively used in the progressive, the cross-linguistic evidence for *be*-support in English is only partially valid.

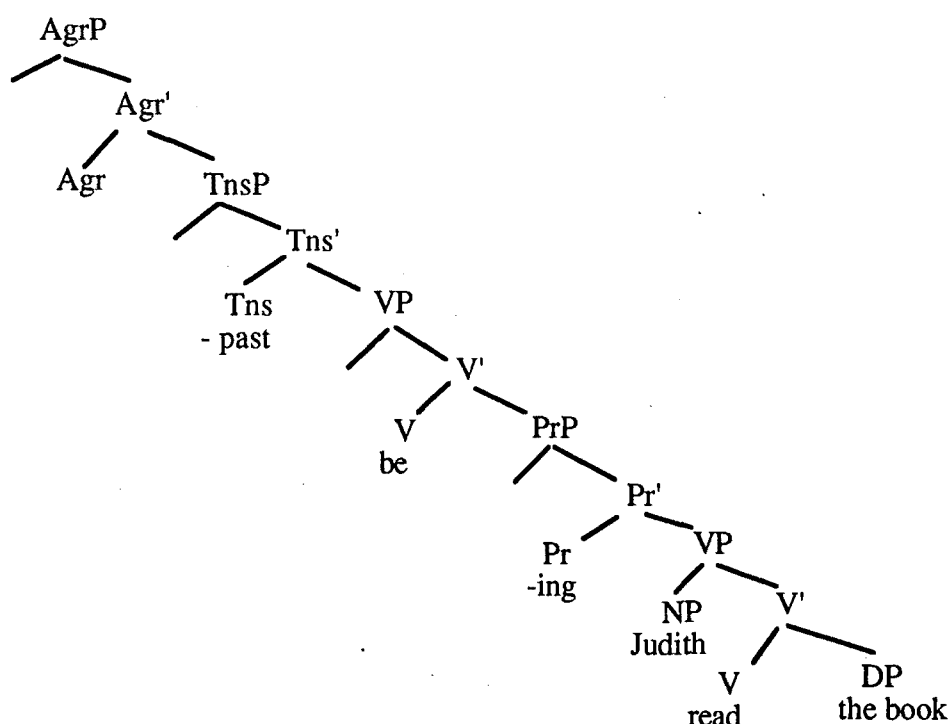
At the same time, cross-linguistic evidence can be used to counter Ouhalla's assertion that *be* is semantically empty. As work in Cognitive Semantics has stressed (Talmy 1986, Langacker 1982, 1986), the choice of *be* is fairly general: a variety of languages in the world use as the progressive auxiliary a verb that denotes physical location. Comrie (1976:98-103) mentions Dutch and Icelandic. Mufwene (1984) worked on the expression of duration in Lingala and the Western dialect of Kikonga-Kituba (of the Bantu family). Some Romance languages have progressive periphrases with verbs with a clear locative meaning: *estar*, *ir*, *llevar*, *venir*, etc. in Spanish, *estar* and *anar* in Catalan.

The assertion that *be* lacks semantic content in the periphrasis is debatable, and so, therefore, is the assumption that it can be eliminated at LF.

5.2.2 The affix *-ing* head of Participle Phrase. Cowper (1992)

Cowper's view of *-ing* as the head of a functional category is not related to Aspect but to Tense. Her proposal is that the affix *-ing* is a non-finite tense morpheme, in particular, a present tense marker, "in that it places the event it governs at the same time as that of the higher verb" (p. 108). Surprisingly, the name of the functional category she proposes is not Tns, but Participle Phrase. For a tensed progressive sentence, the phrase-structure tree is the following.

(4)



The affix *-ing* is also the marker of progressive aspect, not as a functional category (one that bears a feature 'progressive'), but by imposing a selectional restriction on the verbs to which it attaches: "the governed event must be represented in the temporal representation of the sentence as extending over an interval, rather than a point in

time."(p. 108). Predicates of different types (including states, according to Cowper) satisfy the selectional restriction in different ways.

Cowper's semantics of the progressive is not different from Reichenbach (1947) (see section 2.3.1) and therefore has the same shortcomings, the most important of which is that it does not explain why states are ruled out in the progressive periphrasis, whereas, as her own example (5b) illustrates, they occur in free adjuncts. The grammaticality of postnominal adjuncts with state predicates such as (5c) [(1b) in chapter 4] also remains unexplained if *-ing* is exclusively a progressive marker.

- (5) a. Resembling his mother as he does, he could never sneak into the family reunion partly undetected.
b. *Judith is resembling her mother.
c. A man resembling your brother came to see you.

Furthermore, any account in which the affix *-ing* is the marker of progressive aspect fails to account for the non-progressive, non-simultaneous interpretations of *-ing*: the anteriority and posteriority readings of free adjuncts, discussed in section 4.2.3 and recalled in (6).

- (6) Lifting the telephone, she asked for room 16.

If the interpretation of *V-ing* is due to selectional restrictions, then she should explain why these vary according to the structure in which *V-ing* occurs. Nevertheless, while we disagree with the 'selectional restriction' view, her notion 'inner tense' to a certain extent characterises the fact that *-ing* as a marker of actuality needs to be anchored by an element with temporal reference, by default the tensed auxiliary which governs it.

5.2.3 Recapitulation

The two proposals reviewed in section 5.2 defend a mapping from the affix *-ing* to a functional projection. Ouhalla (1991) assumes that *-ing* is the head of an Aspect Phrase with progressive value. Considering the conclusions of chapter 4, motivated by the analysis of other *V-ing* structures, Ouhalla's assumption is clearly insufficient given that it cannot account for the progressive readings of structures where both event and state predicates may occur. If we assume that *-ing* projects a progressive functional category when the verb denotes an event, what functional category is projected when the verb denotes a state in constructions such as the postnominal adjuncts? Also debatable is Ouhalla's proposal that progressive *be* is semantically empty and inserted only for tense support.

Cowper (1992) dissociates progressive interpretation from functional projection, and is thus more adequate to explain the facts presented in chapter 4. Instead of projecting an Aspect Phrase, *-ing* projects a tense-like "Participle Phrase". This overcomes the problems of matching progressive aspect to a functional projection. However, because the progressive interpretation is considered by Cowper the result of a selectional restriction that *-ing* imposes on the verbs to which it attaches, there is not an obvious link between the functional projection Participle Phrase, the affix that realises it, and its contribution in the aspectual interpretation of a sentence. In section 5.4 I will suggest an improvement on Cowper's analysis that incorporates the notion actuality, developed in chapter 4 in the syntax of progressive structures.

5.3. A referential treatment of tense and the VP analysis of the English Progressive periphrasis. Zagona (1988,1992): Temporal Argument Structure

Zagona (1988) extends the model of Temporal argument structure and Tense construal proposed by Hornstein (1977, 1981). The essence of the model is that, along with the thematic or argument structure projected by a predicate, usually a verb, a sentence has a temporal argument structure projected by the Tense head (and possibly by the auxiliary *have* in the perfect periphrasis). The temporal arguments identify the reichenbachian time points which are conceived as (temporal) semantic roles: E (event time), R (reference time), S (speech time). Temporal role assignment works in the following way:

1. The [+/- finite] head of a clause assigns the feature [+/- Past] and the temporal role E, corresponding to the Event time, to its internal argument VP. This temporal role assigning head was Infl in Zagona (1988) and Tense in Zagona (1992), after an influential paper by Pollock (1989) showed that Infl is in fact two distinct categories, Agreement and Tense. Tense has an external argument, to which it assigns the role S, before it moves to the Spec of CP.

2. The perfect auxiliary *have* has its own temporal argument structure and temporal role assignment capability, assigning the role E to its VP complement. Although the perfect does not lie within the scope of this thesis, we think it is worth making a brief stop to see the mechanisms of tense proposed by Zagona at work.

Perfect tenses make reference to past time. For this reason, the perfect auxiliary *have* assigns inflectional feature [+Past] and the temporal role E to its complement, the lexical predicate. *Have* itself is assigned inflectional features [+/- Past] and the temporal role R (Reference time) by Tns. For the sake of illustration, consider the following sentence:

(7) The girls have read their books.

In (7), the auxiliary *have* is a present tense form, and bears accordingly the inflectional feature [-Past] and the temporal role R. The perfect participle *read* has the feature [+Past], assigned by the auxiliary, and bears the role E. The role S has been assigned by Tns to its external argument, an abstract element. Thus the Temporal argument structure of the sentence is complete.

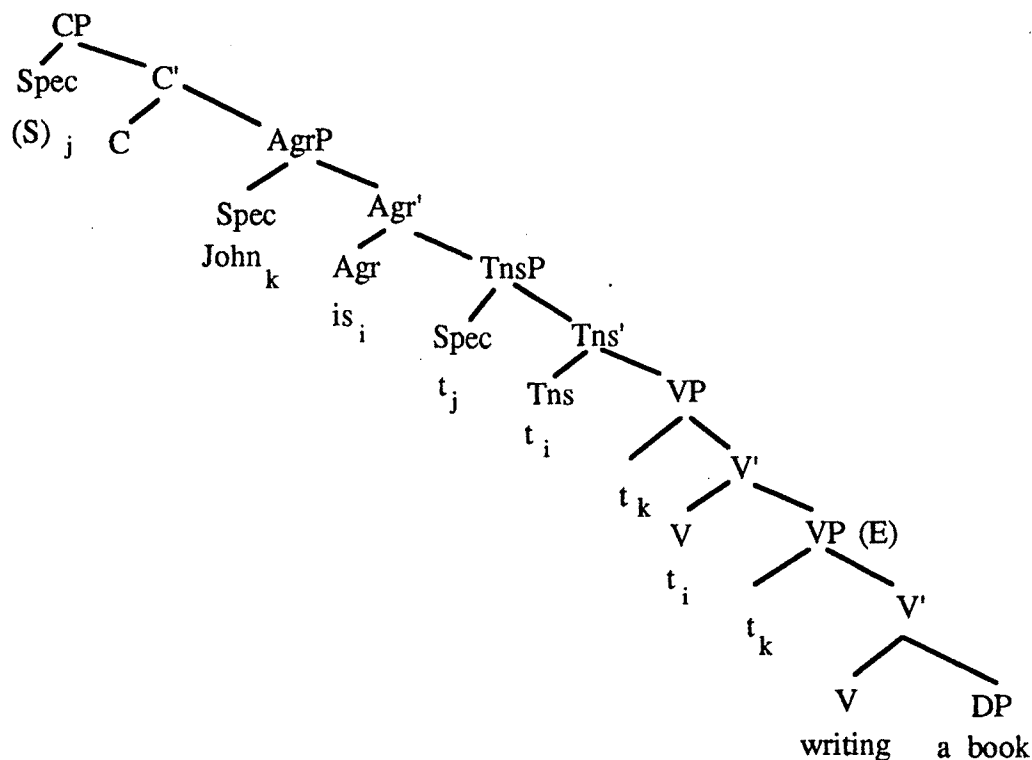
Of course, temporal argument structure establishes a regime of syntactic relations between temporal arguments. For Zagona, these relations are binary, and they are the input to Tense construal at LF. That is, the temporal interpretation of a sentence depends on syntactic relations between temporal arguments, which are the times in Reichenbach's framework.

Temporal argument structure is the manifestation of a referential view of tense. Proposals such as that of Zagona have more difficulties in accounting for concepts such as progressive aspect. Nevertheless, Zagona manages to account for the temporal layout of the progressive periphrasis. Unlike *have*, *be* does not have role assignment properties. The progressive interpretation of a sentence containing the periphrasis *be* + *-ing* is due to the presence of the affix *-ing*, a "V⁰ progressive affix, a derivational affix which forms gerundives, nominals and adjectives as well as verbs", according to Zagona (1988:62).

What remains to be explained is how the Tense head can assign the role E to its internal argument (the lexical VP) given that there is an intervening VP. Zagona argues that since *be* is contentless, and does not have temporal or thematic role assignment capabilities, the role E may be assigned "through" *be*. The relation between Tns and *be* is head-head agreement.

The structure of the progressive periphrasis with all the relevant indices is the following:

(8)



The tree contains three distinct traces. First of all, the movement of the verb up to the Tns and Agr heads leaves behind the trace *t* with subindex *i*. The movement of the external argument *John* from the specifier of the VP to the specifier of Agr leaves behind the trace *t* with subindex *k*. Finally, as far as the temporal argument structure is concerned, the Tns head has assigned the role S (in brackets) to its Specifier which then has moved to the Specifier of Comp.² The trace left behind is *t* subindexed with *j*. The lexical VP bears the role E (in brackets).

In Zagona (1992), the concept of a syntax-driven temporal interpretation is pushed a little further. Different readings of tenses correspond to different referential relations between temporal arguments. More importantly, she argues that if two languages differ in the

² The movement of the temporal external argument of Tns to Comp violates the principle of the shortest move. I have chosen to place this remark as a footnote, given that an exhaustive review of Zagona's (1992) draft paper would go far beyond my goal to deal with the realisation of the notion progressive. According to other scholars (e.g. Enç 1987) Speech Time is inherently located at Comp.

readings allowed for a particular tense, those differences can be derived from differences in the ways in which syntactic principles apply in those languages. One of her examples is relevant to our dissertation: differences in the readings of the present tense morpheme in English and Romance languages.

In Zagona's (1992:26-27) interpretation of Reichenbach (1947), the present moment or actual event reading reflects the fact that E is anaphoric to S in the terms of binding theory.³ Spanish, for instance, allows the present moment reading, but English does not. This contrast can be attributed to the way in which verbs receive affixes in these languages. Zagona's argument may be summarised as follows: in a sentence in the simple present, the lexical V bears the temporal argument Event time. The Minimal Governing Category where E can find a binder is TnsP. This leaves out the CP, in whose Spec the potential referent for E, i.e. S (the Speech Time) lives. The argument E is left unbound. One way to solve this is if the Minimal Governing Category for E includes the CP. For this to happen there has to be movement of V to the head of Infl. If the Minimal Governing Category is expanded, E may be bound by S, and the present moment reading obtains. It turns out that Spanish is one of the languages with V-to-Infl movement (V-to-Tns). Spanish thus has a present moment reading for the simple present. English, in contrast, happens to be a language where V-to-Infl movement is not allowed. The consequence is that in English S does not bind E, disallowing the present moment reading. (9b) illustrates the English configuration, (9d), the Spanish one. Index *i* is the temporal reference of S (the time of Speech), and index *j* is the temporal reference of E (the time of the Event). The trace left by the moved NP subject is *t*, the trace left by the moved V in Spanish is *l*.

³ Definition of the Binding Principles according to Chomsky (1986):

Principle A: An anaphor must be bound in its Minimal Governing Category (MGC).

Principle B: A pronominal must be free in its MGC.

Principle C: An r-expression is free

The Minimal Governing Category of α is defined as the minimal XP containing α , a governor for α , and a subject.

- (9) a. Mary sings.
 b. [CP (S)_i [AgrP Mary k [TnsP [Tns' [+present] [VP (E)_j t_k [V sings]]]
 c. María canta.
 d. [CP (S)_i [AgrP María k [TnsP [Tns' sings_l [+present] [VP (E)_j t_k [V t_l]]

The actual event (here 'present moment') reading of the English progressive is predicted by the same explanation plus the assumption that the auxiliary *be* undergoes V-to-Infl movement. The Minimal Governing Category for E is expanded to include the CP, in whose Specifier S lives. S can bind E, giving rise to the actual event reading. All of this may be followed in tree (8).

One objection to her argument is that the actual event reading of the progressive is not restricted to the present tense, in spite of the fact that in tenses other than the present, E is never *cotemporaneous* to S. This shows that *anaphoric reference* is not the only mechanism of interpretation, but that the progressive periphrasis must receive its actual event interpretation in other ways. Zagana (1992: 39) makes a direct reference to the past progressive in a footnote, where it is defined as asserting "a specific occurrence of the activity during a past interval. I assume it to be a Past equivalent of the Present periphrastic progressive".

Whether or not the interpretation of tenses is so deeply rooted in the syntax is a matter for debate. Giorgi and Pianesi (1991), for instance, defend a strict mapping between the morphology of tense and its syntactic realisation, and offer a different view of how *reichenbachian* semantics of tense can be incorporated in syntactic theory. Following Hornstein (1990) closely, they assume that morphemes instantiate binary relations between E, S, and R. The present tense morpheme, for instance, corresponds to the overlapping relations (S,R) and (R,E). To explain each reading of the present tense morpheme (e.g. present moment vs. generic) they have to make further distinctions in

the 'overlapping' relation and explain language differences such the one we have discussed in this section as a matter of parameter settings. In my opinion, it is very difficult to prove the superiority of either of these approaches. Choosing one over another involves a reflection on the nature of tense, i.e. asking ourselves questions such as how deeply embedded in syntax tense is, versus how morphological; are there tense parameters, or can we derive the cross-linguistic complexity of tense systems from independently needed syntactic principles such as binding theory. Important though this issue is for the theory, for the immediate purposes of this dissertation I will assume that the absence of an actual event reading for the English simple present morpheme may be explained by either of the two approaches presented here.

5.4 Syntax of the progressive periphrasis

The head of the functional category realised by *-ing* is not defined by the feature [+progressive], as Ouhalla suggests, or only by 'inner tense', as proposed by Cowper, but by the feature [+actual], which, for the moment, is to be considered as partly temporal and partly aspectual. First of all, it is 'inner present tense', since the event is located in the present with respect to the time specified by its roof, normally the matrix Tense; secondly, it is aspectual because it is the event proper, or the state, (and not the result of that event or state) which is actual at a period of time.

The phrase projected by the head specified as [+actual] will be called Actuality Phrase. The negative value [- actual], which we assume is realised by the passive participle affix *-en*, also combines temporal and aspectual features. Firstly, it is a marker of 'inner past', since the event is located in the past with respect to the time specified by its roof; secondly, it marks perfective aspect, since the event or state are no longer actual at the period of time introduced by *-en*.

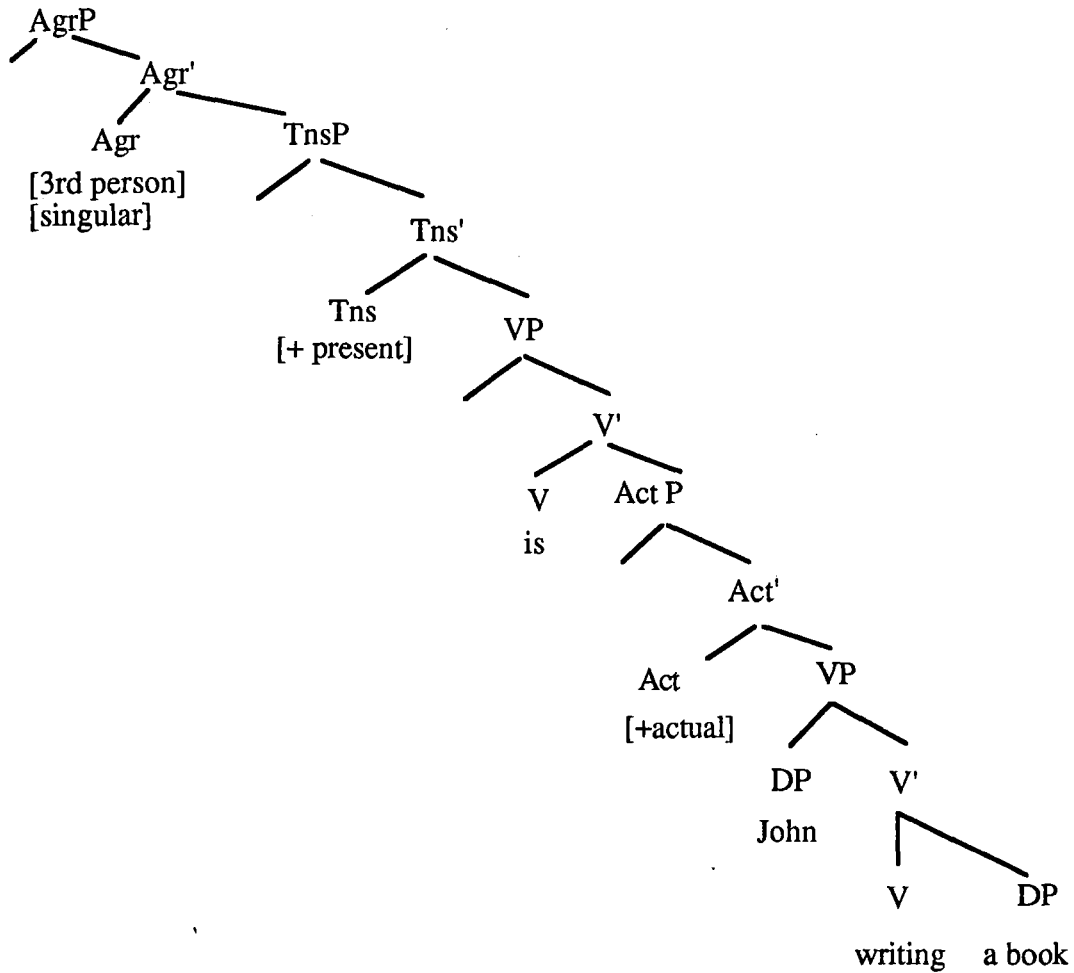
Because the notion expressed by *-ing* in the structures analysed in chapter 4 does not correspond to any well-established grammatical category (has Tense features as well as Aspect features), I have not used the name Aspect for this category. Another reason was that Aspect has become by now an equivocal term in generative syntax, since it has been used for a variety of notions, for instance: telicness (existence of inherent end point) of the predicate (Tenny 1987), telicness combined with inflectionally realised perfectiveness (de Miguel 1990, Bosque 1990, Hernanz 1991), and perfect tense (Ouhalla 1991).

As far as the syntactic status of *be* is concerned, we follow Zagana (1988, 1992) in considering it the head of a VP, although we do not fully agree with her that it is a semantically empty item. English is not an exception to the crosslinguistic generalisation (pointed out in section 5.2.1.1) that the same structures are used to express location and progressive aspect. One of the functions of *be* as a copula is to express location. To a certain extent, then, it is arguable that *be* is 'lexically' progressive. A different issue is that progressive *be* is not a theta-role assigner, and thus must be licensed in some other way, mainly as the item that transmits the tense to the lexical verb, so that the event can be located in time.

Syntactically, progressive *be* is a verb which subcategorises for a VP complement (bearing the marker of actuality *-ing*).⁴ Accordingly, a sentence like *John is writing a book* is analysed as having the structure in (10).

⁴This is also the approach to auxiliaries taken in other generative linguistics frameworks such as Generalised Phrase Structure Grammar and Lexical Functional Grammar. See Sells (1985) for an introduction to these frameworks.

(10)



In this structure, the upper V head gives temporal reference to the lower VP through the head of Actuality Phrase (T-marking in Guéron and Hoekstra (1988)'s terms, assignment of the temporal role E in Zagana (1988)'s terms). Checking of the feature [+actual] gives the lower VP the temporal role that licenses it. As far as the upper verb is concerned, the verb form *is* checks its Tense and Agr features. Note that, according to Pollock (1993), the fact that *be* has "strong" Tense and Agreement features, which it must check overtly, supports the idea that it projects a VP (see Pollock 1993: 40).

The functional category ActP forms other structures with progressive or with actuality interpretations. In the following section we will concentrate on two of the structures with progressive interpretations: postnominal adjuncts and verbs of perception.

5.5 Other progressive structures

5.5.1 Postnominal adjuncts

Traditionally, postnominal clausal adjuncts whose predicate denotes an event and have a progressive interpretation are considered 'reduced relative clauses', structures which have undergone a transformation that eliminated the relative pronoun and the verb *be* of the progressive periphrasis. For such approaches (11a) is the reduced version of (11b). In generative syntax, the reduced relative clause hypothesis is suggested in Zagona (1988:62). But given that states never appear in the progressive, it is impossible to treat all postnominal adjuncts as reduced relative clauses. Thus (12a) cannot be a paraphrase of (12b):

- (11) a. The man carrying a briefcase bought a ticket to London.
b. The man who was carrying a briefcase bought a ticket to London.
- (12) a. A man resembling your brother came to see us yesterday.
b. *A man who was resembling your brother came to see us yesterday.

This problem is recognised by Zagona (1988), who proposes that state *V-ing* clauses be treated as adjuncts, although she does not specify of what category. In this section I argue that they are projections of a head with defective features for tense, aspect and agreement. For the moment I will follow previous analyses (e.g. Fabb 1984) and consider them adjuncts. In the second half of this section, however, I will formulate a different analysis which is consistent with (and inspired by) Kayne (1994).

In postnominal *V-ing* clauses the affix *-ing* links an NP with a VP which expresses a property of it (see 4.2.2.2), and at the same time provides the VP with an argument. Thus in the sentence *The man carrying a briefcase bought a ticket to London*, two properties are predicated of the same individual: the man carried a briefcase and the man bought a ticket to London. The head of the *V-ing* projection acts as a non-finite tense head, since the affix *-ing* locates the state or event denoted by the predicate on which it appears at some indefinite period of time. The tense-like properties of *-ing* seem to allow the possibility of occurrence of the temporal referential adjunct *now*, which gives referential content to the indefinite period of time introduced by *-ing*. An example is provided in sentence (13):⁵

- (13) I've forgotten the name of the contractor who submitted the bid now being considered by the Board.

Postnominal adjuncts seem to be tense-like projections even if the temporal head is not overtly instantiated by an affix like *ing*. Consider the following DPs:

- (14) a. The only navigable river.
b. The only river navigable.
c. The guilty people.
d. The people guilty of fraud.

The pedagogical grammar book from which these examples were borrowed describes the contrast with the following words: (Celce-Murcia and Larsen-Freeman, 1983:392) "there is something semantically more permanent or characteristic about the adjectives that directly precede nouns than the adjectives that directly follow nouns, which tend to reflect temporary states or specific events." For instance, *navigable* is understood as a permanent, defining property in (14a), but as a property related to a particular period of

⁵Due to Celce-Murcia and Larsen-Freeman (1983). This reference grammar proposes a "reduced relative clause" analysis. They attribute the reduction to a transformation that deletes the relative pronoun and the progressive verb *be*. (p.381)

time, i.e. during a long drought in (14b). Similarly, *guilty* in (14d) is a property related to a particular time, and a particular event. Dowty (1972) proposed that Adjective Phrases such as those in (14b,d), which he calls "temporally restrictive adjectives", are contained in a clause with a tense operator that has the same time reference as the tense operator in the matrix clause. Following Dowty, Fabb (1984) defends a clausal status for postnominal *V-ing* adjuncts, with an (abstract) Infl head anaphorically related to the matrix Infl. According to Fabb, the affix *-ing* is not the realisation of the tense-like features, but a marker of progressive aspect. Disregarding the inaccuracy of the assumption that *-ing* marks progressive aspect, I think that a better analysis can be formulated if we consider *-ing* the tense-like (in fact, Actuality) projection of the clause. Tense features would be abstract only when *-ing* is lacking, as in the case of "temporally restrictive adjectives".⁶

In the preceding paragraphs we have given arguments in support of the tense-like properties of the projection of a postnominal *V-ing* adjunct. In addition, *-ing* has aspectual properties, since the event or state predicated by the adjunct is actual at the time specified by another element with temporal reference. The affix *-en* which expresses the opposite value, is not only [+Past] with respect to the matrix tense, but also aspectually perfective, since the event predicated of the indefinite period of time has achieved its end point.

Now we have to address the question 'what kind of adjuncts are *V-ing* clauses'? The question involves two intimately related issues, namely, the nature of the projection of the *V-ing* clause, and the actual attachment site of the clause. We might want to consider

⁶Alternatively, along the lines of Kratzer (1989), we could postulate that those adjectives have one more argument in their predicate-argument structure corresponding to a spatio-temporal location. This argument would force the syntactic projection of a Tense-like phrase, and introduce a temporal variable into the logical representation.

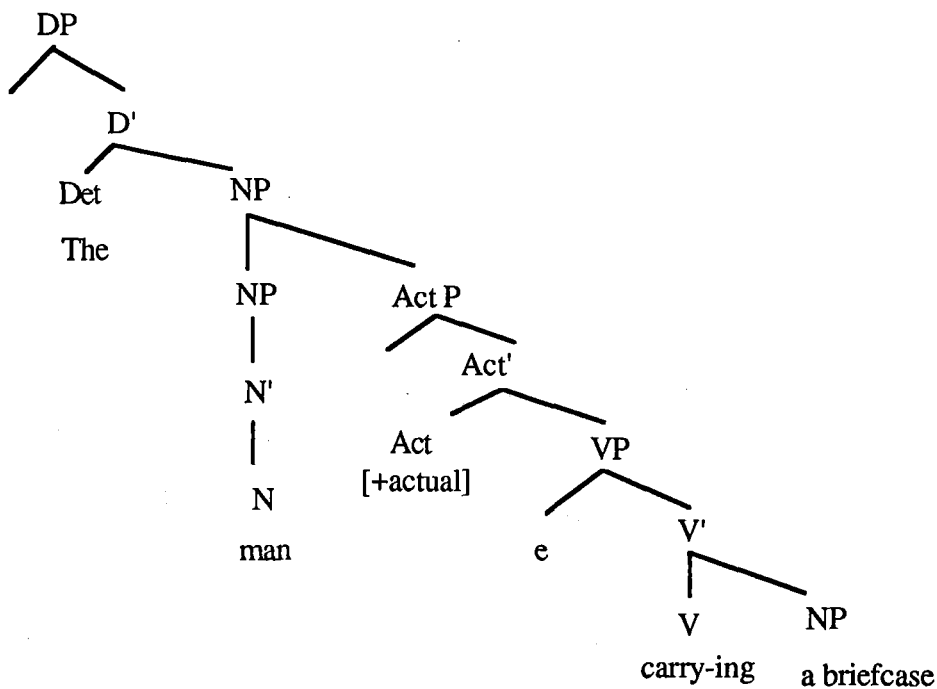
V-ing to be a CP, but we never find an overt Comp and there is no position for a *wh*-constituent:

- (15) a. *The man that carrying a briefcase bought a ticket to London.
- b. *The man for carrying a briefcase bought a ticket to London.
- c. *The man who carrying a briefcase bought a ticket to London.

We will assume that *V-ing* is an Actuality Phrase, projected by a [+actual] head. [+actual] may be conceived of as an amalgam of features for non-finite Tense, Aspect, and possibly Agreement, as will be shortly discussed.

Let us consider now the issue of the attachment site of the clause, which has consequences for its internal structure. In a framework which permits adjunction to the right, the *V-ing* clause can be analysed as an adjunct. Adjuncts are non-governed, and thus they can have an abstract subject. The structure would be as follows:

(16)



In this structure the embedded subject has its reference controlled by the head N. This allows us to explain the agreement between N and reflexives and other elements that are sensitive to agreement. Consider reflexives first:

- (17) a. Candidates_i [ActP e_i voting for themselves_i/*_j] will be disqualified.
 b. Candidates_i [ActP e_i voting for them*_i/_j] will be disqualified.
 c. The man_i [ActP e_i looking at himself_i/*_j in the mirror] has just winked at me.
 d. The man_i [ActP e_i looking at him*_i/_j in the mirror] has just winked at me.

Reflexives need a clause-mate antecedent. Unless we want to assume that ActualityP is not a clause boundary, a subject is necessary as antecedent for the reflexive. Similarly, agreement holds between constituents in the postnominal clause and in the "modified" head, as illustrated in (18):

- (18) a. Anyone wishing to be a candidate/*candidates.
 b. People wishing to be candidates/*a candidate.

Note that the predicative complement of the adjunct's verb *be* and the head of the NP agree.

However, if we adopt the view from Kayne (1994:XIII, 3) that adjunction is always to the left of the head (i.e. right-adjunction is banned), we must explain the postnominal nature of these adjuncts.⁷ A similar problem, namely the syntax of relative clauses, is

⁷ The "ban" on adjunction to the right is a consequence of the Linear Correspondence Axiom (LCA), proposed in Kayne (1994). The LCA is the core of a theory of the relation between hierarchical structure and word order in human language. Kayne argues that this is a very inflexible relation (contrary to the view assumed in current linguistic theory) and that linear word order is of fundamental importance to the human language faculty. One of the basic properties of phrase structure, according to Kayne, is that it is antisymmetric, i.e. that the linear word order in a sentence matches a set of ordered pairs of non-terminal nodes. Given a pair of nodes <X,Y>, the ordering relation is the c-command relation. Now, as it is standardly defined, the relation of c-command is symmetric (two sisters can c-command each other). This obviously does not provide a means of ordering pairs of nodes. Thus, according to Kayne, it must necessarily be the case that c-command is asymmetric, so that if X c-commands Y, Y does not c-command X. Based on this notion, Kayne "derives" the structures of X-bar theory. In his proposal, specifiers are taken as adjoined phrases, and the adjoined element always precedes the phrase or head to which it adjoins.

discussed by Kayne (1994: 86-88). He proposes that a relative clause is not an adjunct, but a complement of DP to which a phrase has been left-adjoined. Following the raising analysis of Vergnaud (1984), the NP which follows the D head is in fact generated in the relative clause and later raised to its surface position, the Spec of the complement of DP.

I think that Kayne's analysis of relative clauses can be adapted to the *V-ing* structures that we are currently analysing. Certainly, one of the differences between finite relative clauses and postnominal *V-ing* structures is the absence of a relative element. But the nature of *-ing* makes the relative element dispensable. As we saw in chapter 4, section 4.2.2, *-ing* always lexicalises the relation between a verb and its subject/external argument. Thus the only argument that may move out of a VP projection to the Spec of Actuality is V's subject. In this sense, we may consider that *-ing* has an agreement feature besides tense and aspect features and this renders the relative element unnecessary. The phrase structure is given in (19):

(19)

